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Morrow Owners' Review

VOLUME 2, NUMBER 5, OCTOBER/NOVEMBER 1985

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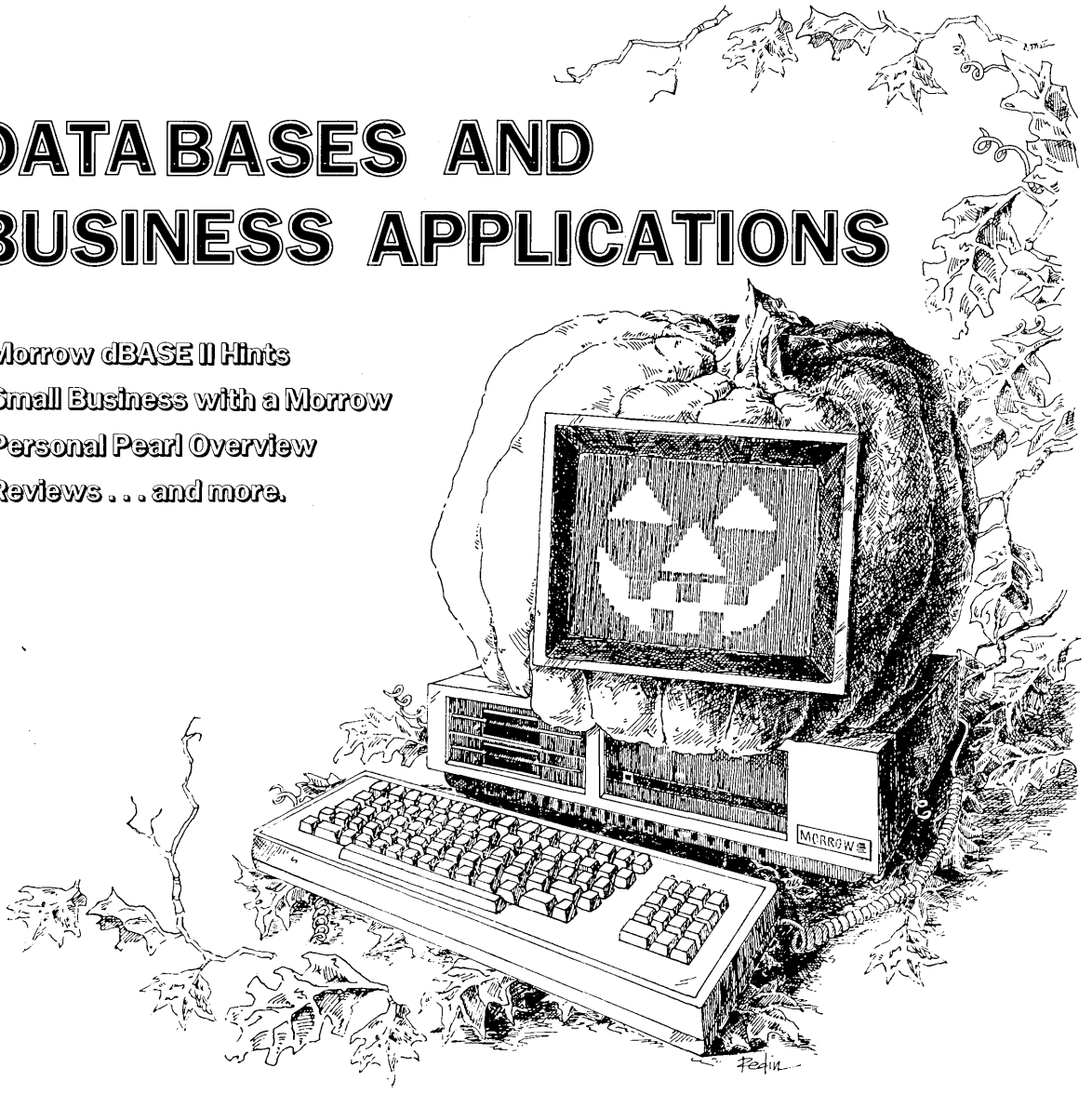

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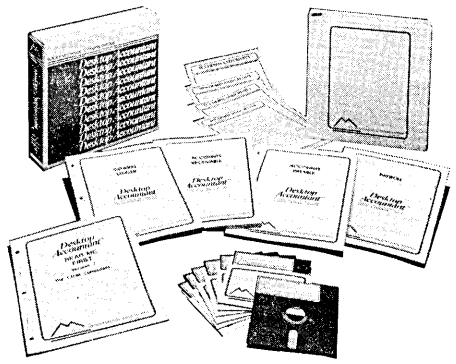

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EDITORIAL

Morrow's Woes

Most of us have not seen much evidence that Morrow is still around. They hardly appear at trade shows. Nobody has seen any Morrow ads lately. Xerox has cancelled the maintenance agreement. Dealers keep complaining about Morrow's lack of response. All this must have made you wonder what is going on with Morrow.

After Big Blue stomped on center stage and many small computer companies bit the dust, Morrow was still able to hang in there. But then, in January 1985 the sales in the whole personal computer industry took a frightful nose dive. Morrow had incurred a sizeable debt at their bank and decided to lay off about half its people during those winter months. With a crew of about 60, they frantically tried to develop the PIVOT into a more marketable machine as the PIVOT II.

At the same time, they struck a deal with Zenith Data Systems, whereby Morrow would produce the PIVOT II for Zenith, sold by Zenith in a slightly modified form as the Z-171. In addition Zenith could manufacture the Z-171 under licence from Morrow whenever ready to do so. In turn, Zenith would support part of Morrow's engineering efforts, help reduce the awesome bank debt, and assist in the financing of Morrow's PIVOT production.

What was there in it for Zenith? They didn't have the capability to produce an IBM compatible laptop from scratch themselves in a short enough time to make it worthwhile. But Morrow did. During Spring and Summer of 1985 things did not look too bad for Morrow. They were able to reduce their debt from $7.2 million to $2.8 million which made the bank relax a little. The crunch came in early September when Zenith, according to one source, decided that the terms of the agreement with Morrow were too lenient and needed to be tightened up. That upset the bank a lot, causing them to consider pulling the plug. On September 6 Morrow announced that it was "in a contractual conflict with a major supplier" and that it had just furloughed about 40 employees until the conflict could be resolved. The rumors about Morrow filing Chapter 11 in the end proved to be inaccurate. But it was a close call.

Five days of intense negotiations resulted in renewed agreements with Zenith and a "patched up" relationship with the bank. Morrow was ready to go back to business again and called its furloughed employees back to work. Most but not all of them returned.

Will It Last?

Apart from the cooperation with Zenith, Morrow is also a secondary participant in a bid by Sperry for 15,000 laptops for the IRS. In addition, Morrow has some respectable orders of its own. The General Accounting Office is awaiting delivery on a $300,000 order of PIVOTs. General Electric has the PIVOT II as the sole approved laptop on its acquisition lists and Morrow has already delivered to them.

According to Morrow, their main problem is that they can't produce the machines fast enough to satisfy their big customers. They are turning out about 1000 a month, but could do much better if adequately financed, which is not the case. Last year Morrow considered "going public" by offering shares on the stock market in order to raise much needed cash; but Wall Street's flirtation with personal computers ended, making the scheme impractical. When asked if he thought that a stock offering could have saved the company from close calls like the recent one, George Morrow said: "I am very happy that the public issue never came about. The company would not have been better off today; all that money would have been spent unwisely and would all be gone. And who would have paid for our spending? The public, the little guys, just like they did for Apple (stock issued around 60, today at 15) and Kaypro (issued at 12 and now at 2). A bank note has to be paid back, but no company has to pay the public back." And so it turns out that—by the grace of accident—Morrow was saved from this moral blight.

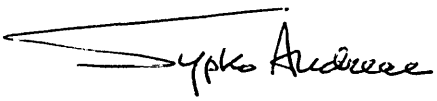
Surviving in a Market that Demands Support

When asked about Morrow's capability to provide technical support to its dealers, George Morrow made it clear that his company's first priority is to concentrate on being able to manufacture. There is some technical support now, but Morrow does not feel the company can spend much of its resources on that right now and won't for a while.

This stance is most familiar. But one wonders how dealers are going to warm to PIVOTs with such scanty support in a market that simply demands it. Perhaps the only viable way for Morrow to stay in business is to manufacture their PIVOTs for bigger companies like Zenith and Sperry who do have the resources to support their customers. But what if Zenith and Sperry finally get ready to do the manufacturing themselves? Except for the licensing agreement, they wouldn't need Morrow anymore. Could Morrow survive on that arrangement?

What About Us Morrow Users?

I talked to a few dealers with repairshops. One said they would keep repairing MD2's and MD3's no matter what happens to Morrow, because most parts are readily available anywhere. Another expressed confidence that in about half a year they themselves would know enough to be able to repair the much trickier MD11 circuit boards. Two dealers said they would accept repairs for computers through the mail from anyone. At the same time, we've received letters from readers telling us they feel deserted by their dealers bailing out. That is why it is imperative that we as users develop our own resources. Already Morrow has agreed to pass schematics and technical manuals on to MOR and two volunteers have come forward to inventory and distribute the information among subscribers who need it. We need to find out where the dealers are who are willing to do repairs and print that information in these pages. There is much more we can do for ourselves. Let's get to work on it now.



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LETTERS TO THE EDITOR

A DEALER SPEAKS

Dear Editor:

This is in response to the two letters in your August edition about unhappy Morrow customers. They were complaining about the service, or should I say non-service, they were receiving from their Morrow dealers. We have been Morrow dealers for almost three years now, and have always serviced our customers with parts, service, and software support.

The people who write to you and complain about their Morrow dealers did not mention the fact that they were either buying mail order or at a discount rate. What they fail to remember is that you get what you pay for. We do not sell at discount rates, but we do support, train and service their Morrows. We have customers that bought from us over two years ago and we still answer any questions that need to be answered.

My company is a super service center for Morrow in the state of Georgia. We will repair Morrow computers for anyone if they ship them or carry them in to our location. Most of the time we have a 48 hour turn around, unless it is a very difficult problem. Our service department keeps plenty of fans, power supplies, and hard disks in stock.

What some of your readers fail to realize is that dealers can say anything about Morrow to get the responsibility off their backs. We have always had excellent support from Morrow's technical support people. Tony and Shirley in Morrow's tech. support dept. are always helpful and accurate. Your readers cannot expect Morrow to take on the training and support of the end users; this is the dealers job. But when dealers discount, then they will not give support. Thus the end users get a great discount on machines they cannot use. So who gets blamed? Morrow, of course—and the dealers.

Linda German, Southern Computer Associates, Inc.
2799 Dalk Rd., Marietta, GA 30067, (404) 952-0412

THOSE PEARLY GAITS

Dear Editor:

I have most satisfactorily utilized all my bundled software, particularly Personal Pearl which I customized to cover the entire spectrum of my accounting practice. I even got it to generate a couple of simple payroll applications for which it was never intended. In short, I am delighted with the home-generated usefulness of my Morrow in pursuit of my daily bread . . . with no thanks due to outsiders and with the memory of burning the midnight oil in splendid and sometimes agonizing isolation, slugging away at putting my Morrow to work for me.

I would be most happy to join (or start) an informal Morrow users group in this general area on Vancouver Island, B.C.

Don N. Sibley, 1645 Bay St., Nanaimo, B.C.,
Canada V9T 2Z8, (604) 758-5973

IT'S GREAT—BUT WHAT IS IT?

Dear Editor:

Appreciate the magazine greatly. Am particularly delighted with the August/September issue. Think the "Floppy of the Bi-Month" is a wonderful idea, a great way for those of us without access to Users Groups to discover the wonderful world of public domain software. Please keep up the important work you are doing. What is a "pd library program"?

GT Buckley, Eureka, CA

[Oops, forgot to explain that last time. A public domain library program allows you to gather a heap of related files and put them all in one (.LBR) file to save space and keep track of them. For example, NULU11.LBR contains NULU11.DOC, NULU11.COM, NULU11.HLP, NULUTERM.ASM. For a complete explanation of .LBR files, see NULU11.DOC on the Floppy of the Bi-Month for October 1985, page 48. —Ed.]

CP/M 2.2 PROGRAMS ON CP/M+

Dear Editor:

I would like to make a couple of suggestions for future articles. Recently I ended up swapping my MD3 for an MD11 with a co-processor board and a 16-meg hard disk. (Don't know if this really makes it an MD16 or not.) With my upgrade, I was introduced to the world of CP/M + and got a few surprises. One of the problems I ran into immediately was that several of my programs would not work with CP/M+. Most of the villains belong in the Public Domain area and, in some cases, I was able to obtain more recent versions that do work.

In view of my experience, I would suggest that all software reviews include a comment as to CP/M+ compatibility. Also, if someone has the experience to put together a list of the more popular PD software known to be compatible (or not compatible as the case may be), that would probably be of interest to many of your readers.

Robert Hobbs, San Jose, CA

[Good point. Luckily, most software from CP/M 2.2 will run without trouble on CP/M 3.0, but there are exceptions. We need a good article about this. Anyone want to write about this compatibility problem for the February issue on the theme of PD software? By the way, Robert, I think you have an MD27 (11 + 16, right?). —Ed]

A PAIN-SAVING DEVICE

Dear Editor:

Writing letters is a pain. But this letter is a negligible price to pay for the pain I'm being saved by MOR. Your publication has already passed my wildest expectations, and I find myself reading it cover to cover before touching any of the other many publications I receive.

As a noncomputing, writer-type—using my Morrow MD2 out of vocational rather than advocational commitments—I don't belong to a users' group (What? In Oregon?), frequent RBBS's, or spend any more time at the keyboard than necessary. Therefore, I'm thankful for the resource you are providing. I learn a lot from those 60 pages.

Your reviews are a blessing. I'm glad to see more of them this issue, particularly when there's so little to be read about CP/M in current PC literature. And your "Floppy of the Bi-Month" is a estimable idea: Enclosed are my two formatted diskettes and donation to the Morrow-users' cause. Hang in there.

J.E. Bottom, Salem, OR

THE BIG COMEBACK

Dear Editor:

Interestingly, I see more new software of late for CP/M than I had for a year or so—maybe Adam Trent [KAMASOFT] discovered something.

Donald Jenner, New York, NY

RIBBONS REFILLS

Dear Editor:

I want to take the time to thank Barry Bruch for writing the article about "Morrow Printer Ribbons" (MOR, June 1985, Vol. 2, #3, p. 21) and giving the name and address of American Ink Products.

Barry also mentioned refills; and when American Ink told me the cost is $3.25, that sounded even better. I went on to tell them that I rewound my ribbons, sometimes getting as much as four rewinds out of one ribbon. They suggested their pancake inserts for $2.00 each, plus tax and shipping charges. I really jumped at this great savings.

My order was mailed late Thursday evening, and Monday morning I received my 12 pancake refills. This is good service. The best part is that I will be able to have new ribbons more often.

Dorthy L. Williams, Sacramento, CA

HOT BREATH OF THE MD11

Dear Editor:

I had an overheating problem with my MD11 which is less than a year old. (I am not sure when Morrow replaced the fan with one capable of doing the job. Wouldn't it be nice if Morrow would offer replacements to MD11 owners?)

On the advice of my very supportive dealer (Source Associates, Laurel, MD) I simply removed the cover of the computer and turned the fan around to blow out rather than in. That did it, and it only took about 10 minutes and a small screw driver.

Carl A. Eklund, Silver Spring, MD

[I really doubt that this is a wise thing to do. It may cool a little better, but now you're going to collect a lot of dust inside the MD11 frame, because your fan filter is rendered useless. Better to replace your feeble fan with one that is up to snuff. Ken Grymala sells a kit to this end. See Classified Ad in MOR, Vol. 2, # 4, August 1985, p. 56. —Ed]

NERVOUS NOVICE

Dear Editor:

Here's my subscription check. Based on what I've seen to date, I will be renewing in 1986.

I ask only that you continue to remember those of us who have figured out WordStar and/or NewWord and are just trying to get the nerve to use Personal Pearl and others of the furnished programs.

Gale E. Irwin, Rolling Hills Estates, CA

HOLY JUPITER!

Dear Editor:

By jove, you guys just might entice me back into using my MD2 again. Keep up what appears to be a great start.

Bruce Hansen, Corvallis, OR

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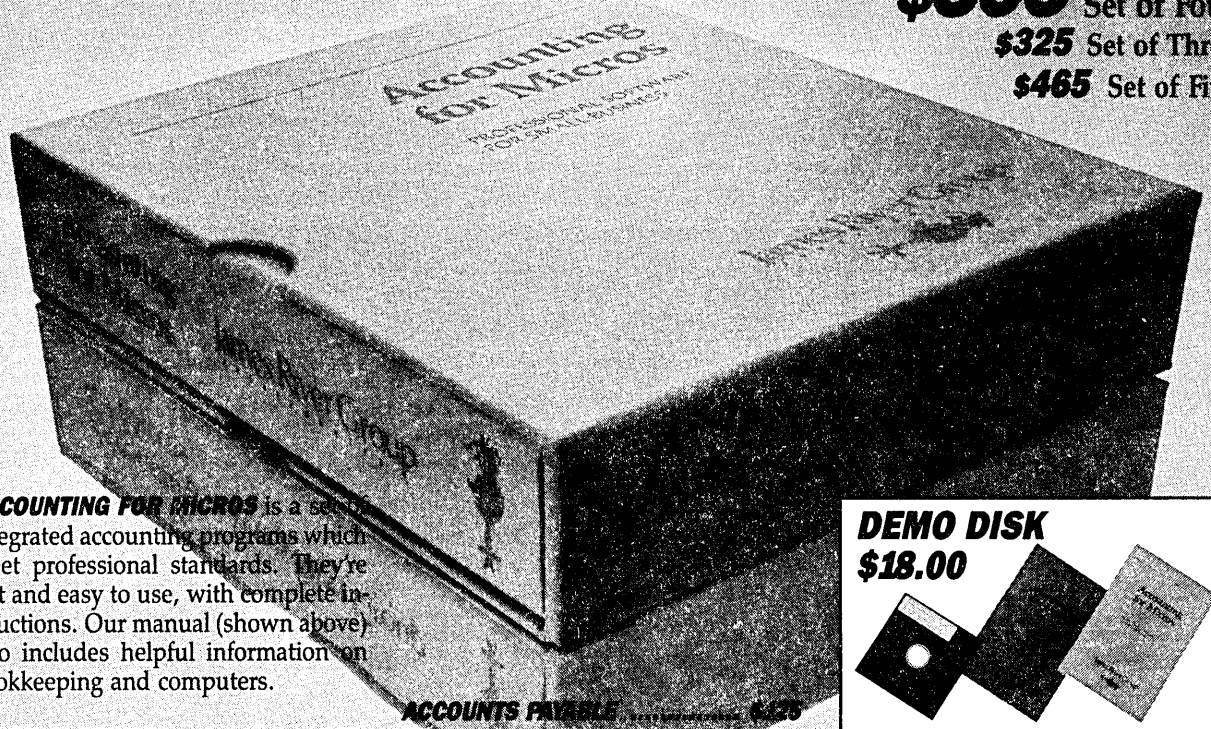

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RUNNING A SMALL BUSINESS WITH A MORROW

by Richard Spingarn

If you run a small business, your Morrow can go a long way toward keeping you ahead of both your paperwork and your competition. I have found that my MD3 can make short and accurate work of some formerly grueling tasks, such as balancing the books, taking inventory, and printing invoices. The result is speed and efficiency—and the feeling that I am getting the most out of my Morrow.

For bookkeeping, I depend on the Quest software that came bundled with my system. And for keeping tabs on our small payroll, LogiCalc works fine. But I have other records to keep, specific to my envelope printing business. For those applications, dBASE II, a sophisticated relational database system, has become the mainstay of my computer operations. It can do the same for you because it is adaptable to almost any business.

dBASE II runs remarkably well on the Morrow, having been written originally for 8-bit CP/M machines. It is no longer state-of-the-art (since the advent of programs like dBASE III for MS-DOS). But it gives me the speed and flexibility I need to customize programs, store information, and quickly retrieve it in whole or in part, in almost any form.

However, before you can use dBASE II you must learn to speak its language. You have to write programs using the syntax and commands the software recognizes. This is not all that hard since dBASE II is a higher-level programming language than, say, BASIC. It requires fewer commands to do a given task, and is full of features specifically designed for database management. The syntax is also easier to learn than BASIC, not to mention assembly language.

I knew nothing about computers or programming little more than a year ago, and even flunked high school algebra. But after a couple of months of perseverance at the likes of memory variables and "do while" loops, I can now hold my own.

My dBASE II system is set up in essentially two parts, or databases. The first holds the vital statistics for all my customers, ranging from name, address, and phone number to whether or not the firm is exempt from state sales tax. The second database holds complete records of every order we fill. By using these two databases either separately or in combination, there is almost no limit to how I can manipulate data.

For example, in my business, customers frequently want to know how many of any one item they ordered, say, one year ago and how much they paid for it. I, on the other hand, want to know what I paid for the paper stock I used to fill that order.

Before dBASE II, this kind of inquiry would mean rummaging through the file drawer to find both the bill to the customer and the bill from the paper company. Now, every order gets its own record in the database, complete with every detail about the sale. I just command dBASE II to find that record, and in seconds, using the orders database alone, I can impress my customer with the correct information. What is more, I know what I have to know to be consistent both in the client's price and in my profit.

A good example of how I share information between the two databases is our invoicing system. I combine data from my order records with customer information from my other database to print out neat, error-free bills.

My first step in developing this system was to write a program that searches the customer database for the firm that I am sending the invoice to and prints the name and address in the correct form. This was a little complicated because some of my customers have three lines in their address, some have four. Some addresses have an additional "ATTN:" line.

I thought it would look more professional if I could print my addresses without any trailing blank spaces after short names and without any of the blank lines that would normally result from trying to print a three-line address in a space that could have as many as five lines.

This is where dBASE II's flexibility comes into play. By using the program's TRIM function, you can chop extra spaces off the end of any word. For instance, if you define the database field that contains your customer's city as having fifteen spaces, but the city you want to print has only six letters, you could have a long space between the end of the city name and the state name. If you tell dBASE II to TRIM the city name, it will print only as many letters as there are in the city name and then print the state.

Also, with dBASE II's DO CASE command, I am able to tell the computer to look at a whole address in my customer database, count the number of lines, and print them exactly where I want them. With DO CASE I simply tell dBASE II in one case, such as three-line

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Richard Spingarn is the owner of Eagle Envelope Company near Ithaca, New York, a business that can conveniently be called on as an excuse for his many hours of staring at green phosphorous.

addresses, do one thing, and in the case of four lines, do something else. In case of a five-line address, do something again entirely different. Of course, these same techniques can be used just as effectively for printing mailing labels.

The possibilities for commands like DO CASE are almost endless. dBASE II also responds to IF...ELSE statements. These commands are perfectly suited to telling the computer things like: "IF the names in my mailing list start with the letter A through M, type a label. Or ELSE skip over the names beginning with anything else and do nothing."

By the time the name and address have been printed on the invoice, dBASE II has searched my other database for all the details about the order, including the date and invoice number, which I have already entered. If I tell the computer I want to send a bill to XYZ Hardware on invoice number 2001, dBASE II looks first to see if a firm matching that exact name exists in my customer database. If so, it searches the orders file for invoice number 2001. If there is no invoice 2001 entered for XYZ Hardware, the name and number are rejected and the information has to be entered again. This kind of error checking assures that your data are accurate, and it is simple to design into your programs.

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After the invoice number and date are printed, things really start to get fancy. dBASE II reads the order quantity, description, and price per unit (in my case, it's price per thousand envelopes) from the record and prints it out. It then multiplies the quantity by the unit price, divides the product by 1000, and prints the rounded-off extension amount in the next column.

The number of items on any one of my invoices can vary—sometimes there is only one, sometimes there are fifteen. Many less-sophisticated database programs are too rigid to allow multiple entries without printing zeros in places with no data.

I have programmed dBASE II to continue looking for all records in my order's database assigned a given invoice number, in our example, 2001. As long as it finds records with that invoice number it will continue printing the quantity, description, unit price, and extension for each, on multiple pages if necessary. There are no unwanted blank spaces or zeros. This is an example of a DO WHILE loop. I command dBASE II to look for invoice 2001, DO the above steps, and skip to the next record. WHILE the successive records continue to show 2001 as the invoice number, all steps will be repeated.

Having completed that, dBASE II then adds up the extension column and prints the sum on the subtotal line. Now it is time for the program to return to the customer database, where it can find whether or not XYZ Hardware has to pay state sales tax. If so, the subtotal is multiplied by seven percent (New York is a high-tax state). The tax is added to the subtotal and the answer is printed on the total line. If the customer database says XYZ is tax-exempt, the subtotal is simply repeated as the total. The program will also add in shipping costs and subtract discounts, if need be.

In addition to invoicing, I have written programs using my two databases to adjust the inventory from data on my invoices, total how much sales tax I have collected, and even look up a phone number in seconds. I have added menus to make everything easy to use. Perhaps my next project will be to transfer my bookkeeping and payroll to dBASE II, creating a completely integrated system.

Once you have established your databases and learned the language, you always seem to get more ideas about how to save yourself time and effort with dBASE II. Writing your own programs is challenging, but once your creations are running, your feeling of self-satisfaction soars.

[Several of Richard Spingarn's dBASE II programs are available on the Floppy of the Bi-Month for October, 1985. They are the .CMD files listed. —Ed.]

REFLECTIONS ON dBASE II
—Comparing Gold to Pearl—

by Bill Lamp'l

When I purchased my MD2 system nearly two years ago I was brimming with the excitement and fear we have all experienced at the beginning of our computer careers. Thanks to the printed word (not necessarily the ones that came from the factory), some friendly advice, and dizzying determination I managed to stumble forward—first through word processing and then spreadsheets.

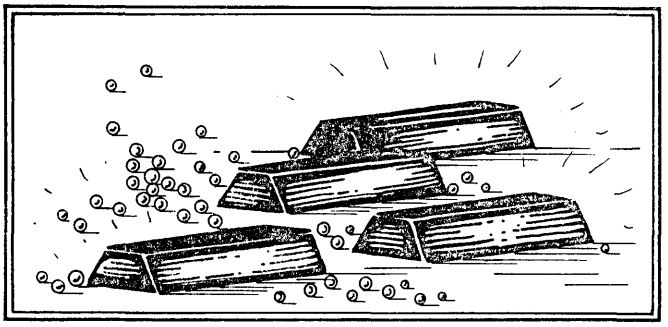
Then came Personal Pearl. I didn't have any newsworthy need for a database manager at the time, but the idea of being able to organize and manipulate data in a variety of ways seemed nifty, so I sat down to learn the world according to Pearl.

I remember groaning when I thumbed through the manual and found it was one of those four-books-in-one arrangements, each with its own table of contents and index. Does anyone realize how hard it is to look up something in one of those? (It's true that dBASE II's manual also consists of a multi-section notebook, but at least the company provides divider tabs!) I also remember swallowing hard when the installation program told me to label the eleven disks I would need to make my working copy of Personal Pearl. And don't forget those backup copies!

The disk-swapping required by Personal Pearl is indeed formidable, and appears to be one reason why Morrow no longer bundles the program with its single-sided drive computers. First of all, a disk is required for designing the input form on which data will be entered; the actual entering or editing of data is handled by a second disk. At this point you can view your data records one at a time, but in order to organize or manipulate the data in a meaningful way and present them in a useful report, you must first design the output format for the report on a third disk; to produce the report on paper or as a disk file requires yet another. If the report you desire requires more than one level of sorting, there is a fifth disk for this purpose which interrupts the production of the report and adds two more disk swaps to the process. A seventh disk is needed to perform a number of file maintenance functions, while the remaining disks contain a starter library of canned programs. In case you don't yet have diskpan hands, remember that you will still need data disks in addition to all the above.

I have always thought of myself as reasonably intelligent, yet in that first year I had an uncanny aptitude for getting into trouble every time I fired up Personal Pearl. Whenever I attempted to modify my input form, I was plagued with messages proclaiming PROGRAM LOGIC ERROR followed by a reference number which did not correspond to any in the manual. Even my attempt to look up the code was a hassle; once the elusive indexes were found, there were no references to Error Codes; I eventually found them listed under Messages.

The message FILE MAINTENANCE REQUIRED also seemed to become my constant companion. I nearly wore out the file maintenance disk trying, to no avail, to satisfy some unknown program demand; months later a sympathetic friend advised me to reinstall each REPORT corresponding to the form I had revised, even though no physical changes had been necessary to the report. This one tip ended weeks of frustration; perhaps it can help someone reading this. As is so often the case in computing, the answer to my problem was in fact buried somewhere in the manual, but for me it was particularly stubborn at resisting detection.



Well, a couple of months ago, I decided to purchase dBASE II rather than bumble on with the bundled Pearl. What I'm able to report so far are just first impressions; however, I feel that even the initial differences are so striking that you should have an opportunity to hear about them (especially if you have traveled down the road with Personal Pearl).

For obvious reasons the first thing that impressed me about dBASE II was the single disk on which the program resides—all that is needed to get down to business is there. No separate design disk, sort disk, report disk, etc.

Creating a data file with dBASE II is suspiciously uncomplicated. You issue the CREATE command, and you are asked for a file name. You then are asked to name each field (one per line), indicating the field type (character, numeric, or logical), the width required, and number of decimal places, if required. Thus a typical line you might enter would be ZIPCODE,C,5. (The

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Bill Lamp'l is a school psychologist outside Atlanta, Georgia, and uses his MD2 to write reports and transmit test scores, as well as keep the family books.

zip code is treated as a character field here, as we won't be performing any arithmetic on it.) Once you have entered all the necessary fields, dBASE II is ready immediately to receive data, and in fact will ask you "Input Data Now?" (No form installation, no disk swap!) Unlike Pearl, dBASE doesn't care which drive you save your data on, although most of us prefer to save our data on a drive other than that holding the database command program. Nevertheless, I think it illustrates the flexibility which is evident in so many facets of dBASE II.

The thing that has impressed me most so far, though, is the ease with which I can sit down at the keyboard and ask dBASE II to show me my data in whatever configuration I dream up. Personal Pearl's output is governed by the predetermined report format you designed and installed when you first created the database—probably before you had a clear idea of what information was really useful in a report. If your needs later changed or if you thought of several other report formats that might be needed from time to time, you had to design and install a separate report for each need. dBASE II shines in its ability to accept your ad hoc instructions (which, incidentally, bear an uncommon resemblance to an ordinary English sentence) and produce the data combinations you ask for immediately.

To illustrate, allow me to use a personal example. I have a video tape movie collection, and the database I created contains fields such as Title, Volume number, Runtime (in minutes), Rating (G, PG, R, etc.), Category (feature film, documentary, TV show, etc.), and a few too obscure to mention. Suppose I need to find a movie to entertain the kids while the adults play bridge. I'll need something (preferably a movie) about 90 minutes in length, and rated G or maybe PG. To find the candidates in my collection which fill the bill, I'll type approximately the following:

```
DISPLAY TITLE
VOLUME FOR CATEGORY = MOVIE .AND.
(RATING ="G" .OR. RATING ="PG") .AND.
(RUNTIME >80 .AND. RUNTIME <100).
```

I think you can follow the basic instruction being issued: display the title and volume number of any movie rated P or PG with a runtime between 80 and 100 minutes. If you want a printed copy of the results, simply issue the command SET PRINT ON before typing the DISPLAY command.

Besides the "ad hoc" reports, both dBASE II and Pearl allow for the more formal, conventional reports complete with headings and page numbering. Whenever you construct such a specific form layout, dBASE II saves the details in a .FRM file. In the future you can generate this same layout by requesting a REPORT using the .FRM file of your choice.

Personal Pearl does allow you to produce a report that includes only a subset of records by specifying "high" and "low" ranges to the values in various data fields; in my opinion this is a tedious procedure with some inherent limitations which I will mention shortly. In addition, Personal Pearl retains these range values on disk, so you'd better remember to change them back when no longer needed, or your report will contain some unwelcome surprises.

A great deal of dBASE II's flexibility lies in its ability to respond to several conditions using key words such as AND, OR, and NOT; dBASE II refers to these as Boolean operators. Thus in our example we were able to find movies that were G or PG AND meeting several other criteria as well. To invent a few other applications, a salesman might need to list all his customers who live in California OR New York, or a hospital may need to find all its blood donors with Type A OR Type O blood, etc. Personal Pearl is able to handle AND situations well enough by utilizing the range table, but it cannot handle OR conditions in a single pass. Thus you would have to generate one report listing your Californians, then produce a separate report listing your New Yorkers. One might conceivably generate a report sorted by state; your two target groups would be grouped together as desired, but you would have to sit and wait while the other 48 states were sorted (and printed out) as well—one cannot isolate just the target group in this OR situation.

Often when working with Personal Pearl, I encountered times when it would have been useful to take a subsection of the data and put it into a separate database. Alas, there was no way to do this short of making a duplicate copy of the entire file and then manually reviewing each record one at a time, deleting those which didn't belong. I once collected a data file so large I realized it wouldn't all fit on one disk. A tenuous solution might have been to split the data onto two disks: A-M, N-Z or so; again, however, this would have required manually inspecting and deleting hundreds of individual records. With dBASE II, on the other hand, it is a simple task to single out the records for transfer and have them copied onto another database of similar structure which dBASE II creates automatically.

If you have ever printed mailing labels with Personal Pearl and desired the surnames to be in alphabetical order, you may have encountered another quirk. Both Personal Pearl and dBASE II require that you specify the width of each field; unless your list is fixed and unchanging, you must allow enough room for the expected (and unexpected!) entries you'll add in the future. Al and Ed may not need much field space, but Christopher is another matter. When Pearl prints out a label (actually a type of report), it gives each field its full width; if there aren't enough typed characters to fill the width, blanks are displayed. Now in order to sort the list alphabetically by surname, the surname will have to be the first item in some field, since sorts are based on the left-most

character in the field. If you chose to print your labels "Capone, Al" and "Columbus, Christopher," the entire name could go in one fairly wide field and be sorted without difficulty. However, if you prefer to print your labels in the format "Al Capone" and "Christopher Columbus," you run into a problem. True, you could put first name and surname in two separate fields (e.g., FNAME, SURNAME) and sort on the field SURNAME; however, the field FNAME must be at least 11 spaces wide in Pearl to accommodate both first names. As a result the label for Christopher Columbus will look fine, but the other will appear as:

Al Capone

sporting a very unsightly gap as Pearl fills the FNAME field with spaces. dBASE II, on the other hand, with its TRIM command, easily kills these unnecessary spaces and eliminates this whole problem.

dBASE II also gives you the capability of sorting your database on any given field; however, when you append the database with new information, it is tacked on at the end of the file, thus spoiling the sort. Of course you could always re sort; however, this is time-consuming if you have a large database or if you append it frequently. Another approach is to give the command to INDEX one of the fields, such as SURNAME, and call up this index file each time you load the database. The index does not physically change the order of data on the disk, but controls dBASE II's internal "pointer" which determines the order in which records are processed. Thus any listing of the indexed area will appear as though it were sorted. When you are working with an indexed file you are able to FIND a specific record in only a couple of seconds.

Editing records with dBASE II utilizes straightforward commands (as with most functions). In addition to altering individual records there is a BROWSE command which will fill the screen with individual records, one to a line and laid out in the exact widths you specified when you created the file. Horizontal scrolling allows you to see fields which might extend off the screen, and cursor control commands allow you to "browse" through the list, making changes or corrections at will before exiting the mode.

Both dBASE II and Pearl allow these on-screen edits of specific records, but because dBASE II responds to command lines it is possible to edit records in other ways as well. For example, with the REPLACE command it is possible to alter the data in a given field across the entire data base with a single instruction. The data can be specific information or it can be an operation. Suppose, for example, that you need to reduce the dollar AMOUNT throughout a large data base so that it no longer reflects a 4% sales tax; the format would be REPLACE all AMOUNT with AMOUNT/1.04, a command which accomplishes the desired change across the entire data base.

dBASE II allows you to go as far and get as complex as your courage will allow through the use of COMMAND FILES, which are in effect programming files. Once these are set up, you can command dBASE II to DO any one of them, and sit back and observe the software perform anything from setting initial operating parameters to running an entire accounting system—an example of which is included with dBASE II.

As I've said before, I'm still a dBASE II novice and have just begun to explore all the possibilities just mentioned. Having used both dBASE II and Pearl, though, I have found that dBASE II has been better suited to my needs and more satisfying to learn and use.

It is true that Personal Pearl sells a utility program, Pearl File Load, which will perform some of the functions lacking in the regular release, but I felt the $100 for the program could be better spent removing my frustrations rather than compounding them.

Of course, dBASE II must be purchased, as it is not bundled with any Morrow computer; the cost averages about $300, although I found mine for $165. Thus it is understandable that a great many people who acquired Personal Pearl with their systems will learn to live with it. I, however, count myself among the dBASE II advocates, and haven't enjoyed learning anything as much since I discovered the Morrow computer itself.

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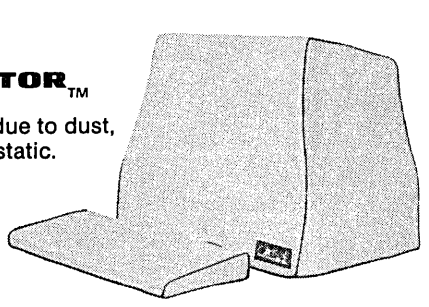

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dBASE II HINTS FOR MORROW USERS

by Ralph W. Mathisen

During my extensive use of dBASE II with large files, I have made some discoveries which I would like to pass on here. 1) There are several potential bugs in the program that can be ironed out if one knows how; and 2) There are some useful things which can be done which the manuals either say cannot be done or else omit altogether. I came up with the following hints and suggestions using version 2.4 of dBASE II on a Morrow MD2, running CP/M version 2.2, revision 2.1, with a Morrow ROM revision 2.3A. Most, if not all, of these hints should also work on other CP/M and ROM versions/revisions as well.

Hint #1: To avoid what is perhaps the most irritating problem: when you swap disks (usually in the B drive) you must inform CP/M (via the dBASE RESET command) that this has been done. If you don't, an attempt to write on the swapped disk will (usually, but curiously not always) generate the ubiquitous CP/M "Disk Error" message, and the dBASE job will ABEND back to CP/M. This can be especially distressing if you've just entered a large amount of data. Nor is there any obvious way to reenter dBASE without the loss of all the data just entered.

However, there is a way to salvage the run—and this will work with any program which generates the CP/M error message. You simply run a zero-length .COM file. The easiest way to generate such a file is to enter:

```
SAVE 0 FILENAME.COM
```

What happens when you run this file is that CP/M loads the zero-length file beginning at the point in memory where execution modules are loaded, and then executes it. But because nothing has in fact been loaded, CP/M executes whatever was left over from before, i.e., the dBASE II program with all the "lost" data intact.

Hint #2: In my version of dBASE II (2.4), CTRL/R does not "force" a save to disk. One command which will force a save is CLEAR.

Hint #3: dBASE II is very inefficient in making copies (because it copies a record at a time). Whenever possible, use the CP/M PIP routine to copy dBASE files. You also might avoid copying (in dBASE) to the same disk, in order to save wear-and-tear on the disk heads from the excessive jumping around.

Ralph Mathisen worked as a computer programmer and systems analyst from 1969-80. He is now an Associate Professor of ancient history at the University of South Carolina.

As data is added to a dBASE II file, it is not necessarily put in contiguous tracks/sectors but is scattered all over the disk. This also causes a lot of unnecessary movement of the disk heads. So it's a good idea periodically to reorganize those dBASE files which have undergone a lot of editing/appending. The best way to do this is to copy the files onto a newly formatted disk, starting with the particular file you want in contiguous sectors. This way the file is not only written contiguously, but is also written in the sectors closest to the directory, thus minimizing the head movement required to access and update the file.

Hint #4: On my Morrow at least, dBASE II has problems with the virtual drives (e.g., drive C), especially with records being appended/copied to large files. It is not uncommon to get a few garbage records. This problem can be avoided when working with files smaller than 120K, since they can fit on one disk along with DBASE.COM and DBASEOVR.COM. (I have a "scratch" disk with only these two .COM files on it for this purpose).

Hint #5: The manuals I have seen do not go into great detail as to the ways in which commands can be combined so as to copy only selected parts of a database. If you want to copy only selected parts of 200 records from the middle of one data base into another, for example, you could type:

```
APPEND NEXT 200 Field1, Field2, ...
```

or even:

```
COPY NEXT 200 Field1, Field2 ... SDF
```

(This may seem obvious to the experienced user, but for the novice it often is necessary to go through several steps to accomplish the same end.)

Hint #6: An intermittent problem I have encountered is that dBASE II does not always insert the correct number of records in the file into the header record (stored in the second through fourth bytes). If dBASE inserts here a number less than the total number of records in the file (as it sometimes does), the excess number will be inaccessible to EDIT mode (although they can be listed with the NEXT command; they cannot be accessed with the GO command). Moreover, any APPENDS will begin where dBASE II believes the file ends, with disastrous results. These records will remain "lost" if you don't in some way physically alter the number of records in the file. There are two ways to do this, one of which will be covered here, and the other in Hint #7 below.

The most straightforward way of changing the number of records in the header record of the file is

to use of a utility which allows you to read/write a disk by track/sector, such as the readily available program DU. [See Footnote.] After the correct disk is logged (LB), the = command can be used to locate the header record (e.g., = followed by name of first field). The 2nd, 3rd and 4th bytes of the header record then must be altered to reflect the correct number of records in the file. These bytes contain HEX numbers which are added to give the total number of records in the file.

First, let's do the exercise of determining what total number of records is contained in those three bytes. If that number is less than 256, only the second byte will contain a number (0-255) and the other two bytes will be zero. If the number of records is higher than 255 the other bytes come into play as well. The general rule for calculating the complete number of records in a file from the contents of the three bytes is to multiply the fourth byte by 65536 (that is 256 X 256), multiply the third byte by 256 and add those two results to the value of the second byte of the header record.

Now for the other way around: You have a desired number of records in mind and you want to get that number in those three bytes somehow, so that the header record will contain the correct number of records for the file. Let's assume that that number is 30,000. That is less than 256 X 256 and so the fourth byte is zero. Divide 30,000 by 256. That is 117 plus a little bit, which is called the remainder. Put the HEX equivalent of 117—that is 75H—in the third byte (use the DU command CH2,75). Now find out what the remainder is: 30,000 (117 X 256) = 48. Lastly put the HEX equivalent of 48—that is 30H—in the second byte using the DU command CH1,30 and you are all done.

Hint #7: WARNING: This section to be used only:

1) EXPERIMENTALLY or

2) IN AN EMERGENCY.

It is possible to fool dBASE II, as in Hint #6 above, or possibly as described below. If, for example, the disk in drive B is swapped, dBASE II does not know it has been swapped, even if the RESET command is issued. Therefore, dBASE II can be tricked into updating one file when it thinks it is updating another file. Usually, of course, one only does this accidentally, but there are occasions when one might wish to do this on purpose.

For example, dBASE II's method of modifying file structure is very cumbersome. Merely changing the name of a record requires that the original file be COPIED/APPENDED at least twice. Likewise, other operations which do not alter the length of the individual dBASE II records (such as the combination of several records into one, or the breaking up of one into several) require the same cumbersome procedure. Now, for small files this may be only an irritation, but for large files it can waste a lot of time. Instead, try the following:

a) Copy the structure of the old file onto another disk (not onto the same disk).

b) Mount this disk in drive B and RESET.

c) Modify the file structure and APPEND a few records from the original file. (NOTE: The record length in both files must be absolutely the same).

d) Now mount the original disk into drive B and RESET; do not CLEAR and do not USE the new file. dBASE II now thinks that the modified disk is still in drive B.

e) Make a dummy EDIT in, for example, the first record. (dBASE II also thinks the file only has as many records as were appended to the dummy file.)

f) Finally, enter CLEAR. This will save the old file with the new data structure.

g) Now, however, the number of records will be that of the old file. Alter it as in Hint #6 above to reflect the number of records in the new file.

This process may sound both cumbersome and potentially dangerous. It is both. Before trying it, be sure you have a copy of your original file. A mistake can cause an End Of File mark to be written at the very beginning of the old file when it is saved with the new structure. This process also can be very useful when dealing with large files (files which take up an entire disk), as it will save both time and wear on the disk drives.

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[**Footnote:** DU is a public domain program that allows you to inspect the contents of files and directories on the disk and to make changes to this data all the way down to the byte level. It is a powerful and dangerous tool. See DU-V86.DOC on the Floppy of the Bi-Month for October 1985. —Ed.]

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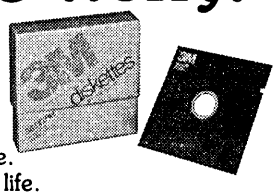

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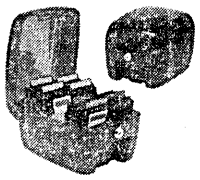

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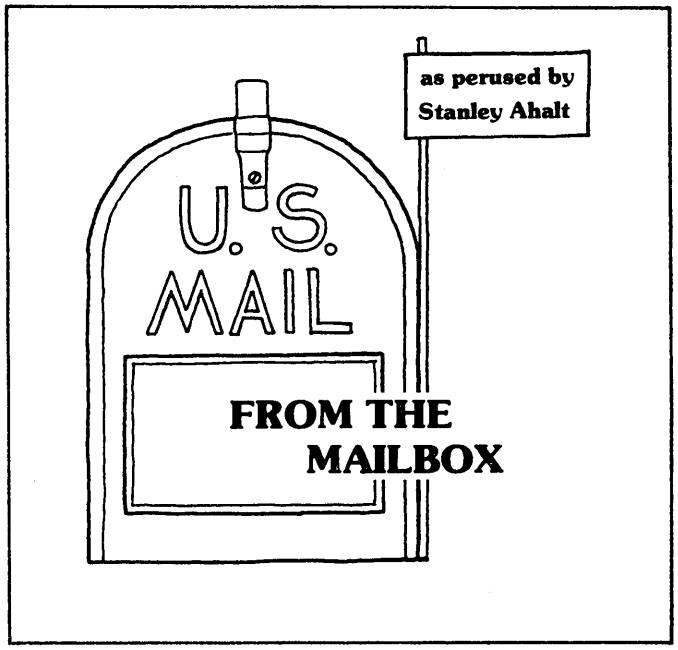

This is the open forum column for all Morrow users. If you have a question or an observation, or just a spicy tidbit of information—pass it along! If we can't answer the question, there is bound to be someone who can. For reasons I will be explaining later, I will no longer be writing this column. Your questions and comments will now come "From the Mailbox" of Bill Steele of Ithaca, New York. Bill has a lot of technical know-how and personal affability to superbly carry on this column. Write to him at: Box 782, Ithaca, NY 14851. (607) 273-2132. MCI Mail: WSteele, ID#: 254-5833. Thanks, Bill!

From Beat Streckeisen, Switzerland - Beat writes that he finds the CORRECT-IT program that came bundled with his Morrow is very useful. But it would be even more useful if it could be used for languages other than English. If it could include ASCII characters 60, 62, 91 to 94, and 123 to 127 then it could be used for French and German. Does anyone know how to effect a patch? Since the manufacturer of CORRECT-IT, Aspen Software, recently sold out to a New Mexico company it might be difficult to get the information through them. ##

From Kathyrn Grijalva, Cupertino, CA - It seems that her business oriented MD3, hooked to a MP200 printer behaves rather erratically. Occasionally, in the middle of a lengthy, or wide, document the printer prints garbage. Subsequent pages seem to print OK. Has anyone else had these same problems and found a solution?

The first thing I advise is to isolate the problem. Try another printer, and if it never messes up, the printer is the problem. But if the problem does occur with another printer, then it could possibly be the computer, the cable, or the software which is driving the printer. Isolate (via replacement) each potential culprit. My bet is that the problem is with the software, rather than the hardware. This "red-flag" statement is based on years of experience both with hardware and software. About 90% of problems are software based. (Now the screaming begins!) ##

From Bhagavan Buritz, Captain Cook, Hawaii - Bhagavan is having problems running the Open Systems accounting software on his MD11 using CP/M 3.0 rev 2.0. The problem is very basic (no pun intended). The first thing that one needs to do to run the program is to configure the program to work with your specific terminal. However, running the TCONFIG.COM program simply bounces him back to the CP/M A> prompt. The program also fails to work on an MD3 but fails slightly differently. The folks at Open Systems are working on the problem but seemed to be unable to solve the problem. Anyone out there using this software? Or is there a known difference between the Morrow Bios and "standard" Bios that would explain the problem? ##

From Joe Day, Greenville, TX - Joe has two questions: First, why does his copy of NewWord insist on printing a "P" at the top of every page that is output? (No kidding, his letter to me has a bold P at the top! — Stan) Second question: Is anyone else using a Morrow to do genealogical research? Joe would very much like to get in touch with others who might be able to give him some assistance. ##

From Alfred Butler, Allston, MA - Alfred was kind enough to send me the last two issues of the Boston MUG Newsletter. Since he has had some additional interaction with NewStar Software, the makers of NewWord he passes on these valuable comments to us:

"Recently I had someone from the local CP/M Group modify my BIOS. I gave him a copy of the source file CBIOS.MAC and a copy of the "system image." He noted that the source code was rev. 2.2 and the system sign-on was rev. 2.3. He modified the source code but did not thoroughly check the listing. When installing the new BIOS on my MD3, the cursor positioning sequence was reversed. At first we thought the MDT-60 manual was wrong. He set up the cursor sequence: column, then row. Later when I tried to run other programs, the cursor positioning was reversed. These programs ran correctly with the old BIOS. I then examined CBIOS.MAC rev. 2.2. I found the label ORDER, DB operation with a 1 operand. The comment is as follows:

BIT 0 = 0 —> row then column
1 —> column then row

"I changed the operand to 0 and everything came out correctly. I also checked various terminals to see what cursor sequences they used. The MDT-20 uses column, then row; the MDT-60 uses row, then column. My conclusion is that rev. 2.2 is for the MDT-20 terminal and rev.2.3 is for the MDT-60 terminal. I have been running with the new BIOS for about two months and have noticed no other problems.

"My questions are: Is my conclusion correct? Were there any other changes from rev. 2.2 to rev. 2.3?

"I had the CP-88 co-processor installed on my computer several months ago. I have had no problems

Note • Commands.

with it. I use it mainly for SuperCalc 2. I have not tried any other MS-DOS programs on it. I also use the ramdisk quite a lot. Right now I am using ver. 2.16 of NewWord (I just received the upgrade) with the ramdisk. I load the NW files on cold boot to the ramdisk and then operate from there. I have a program that automatically does this on cold boot.

"The previous version of NW I had was 1.19. Here are some of the added features.

1) Column Block Mode
   This semms to be same as the WS function.
2) Better Printer support
   The FX-80 recognizes the dot command .ULon to enable continuous underlining, .ULoff turns it off. ^PY turns italics on/off. The driver allows different character widths by using the dot command .CWn, etc, etc. The supplementary manual lists many printers and what options will work with each.
3) Onscreen Display
   Depending on the terminal, printer enhancements (bold, underline, strikeout) appear onscreen just like they appear on the printout.
4) New Dot Commands
   Conditional merge-print dot commands. Custom print control dot commands. The custom print controls: ^PQ, ^PW, ^PE and ^PR can now be done using dot commands or the old way with NWINSTAL.

"This upgraded NW is a great improvement from my old version. It was well worth the $38."

(Many thanks, Alfred - Stan) ##

# # #

Well, I would like to include a lot more in this issue's column, but I need to wrap this up. As I mentioned at the beginning of the column, I won't be writing this column for a while. The reason is very simple—I have a dissertation to write, and if I don't knuckle down and concentrate I will never get it done. Having to say goodbye, even if it is for a short while, is very painful. My Morrow was my first computer (yes, I have another, and both have their uses) and the amount that I learned, and continue to learn, from the Morrow is astounding. I still use my super-modified MD2 a great deal, mainly because it gets the job done in a no-fuss fashion.

What I will really miss is you folks. To all of you who have written, called, or sent disks, and of course to all the fantastic folks at MOR—I will be thinking of you. Morrow buyers seem to be a unique breed among computer users. I have yet to meet anyone who hasn't been extremely helpful and giving. Sometimes I have experienced "technical snobbery" when interacting with the users of other computers, but never with a Morrow owner. Maybe this is because we all share the "We're in this thing together" feeling. Whatever the cause, I will sorely miss you all.

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Making the switch is easy. Buy ReachOut. Use it for thirty days. If you don't think that it is better than what you were using, send it back, with a note telling us what you don't like, and we'll refund your money. It's as simple as that. If you decide to keep ReachOut, you can send us your old software with a receipt showing what you paid for it, and we'll send you a check for half the purchase price, up to $50.00. We'll add it to our rapidly-growing collection of vintage software.

Four years and a lot of love have made ReachOut what it is. And kept out things that people hate. ReachOut. A program worthy of your affection.

ReachOut for MD computers costs $125.00.
A version for the MM-300 is $65.00.
Freight is included. Californians add 6% tax.

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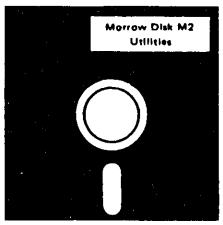
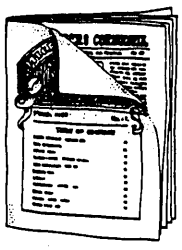
Micro Cornucopia

The Micro Technical Journal



Micro Cornucopia is drawing rave reviews as the technical journal with style, but Micro C, as we like to call it, is more than just a magazine.

Micro C is also a central exchange of software that people have written or modified for their systems and from these contributions we have put together the following Morrow disks (186K format).



Morrow Users Disks
$12.00 each

The following are full disks of software assembled specifically for the Morrow. Each program has a .DOC (documentation) file and many come with source.

Morrow Disk M1
Modem software

This disk is absolutely priceless if you will be using a modem to communicate with bulletin boards, other micros or mainframes.

MMODEM: Morrow version of MODEM 795. You can change your baud rate inside the program. Includes source and library so you can customize it if you wish.

SMODEM: This is MODEM 7 setup for SMARTMODEM compatible modems. Handles autodial and autoanswer.

SQ/USQ: Programs to squeeze and unsqueeze files for faster transfer.

Morrow Disk M2
Utilities

Really oodles of spiffy little (and big) programs to help you get full use of your Morrow.

ZZSOURCE.COM: A true Zilog format disassembler for 8080 and Z80 object (.COM) files. Now you can turn .COM files into .MAC files.

UNERA.COM: Simply enter "UNERA" followed by the name of the file you just erased and presto, the erased file is back! A lifesaver.

FINDBD54.COM: Checks an entire disk, reports bad sectors, and then creates a special file containing those sectors. You save a bundle on disks.

CAT2: This is a group of programs which create and maintain a single directory of all the programs you have on all your disks. Even keeps track of which programs are backed up and which aren't.

DUMPX, DU-77, COMPARE, FORMFEED,DIRDUMP, ... and all have documentation on disk.

Morrow Disk M3
Games

PACMAN.COM: Despite the Morrow's lack of graphics, this one looks and plays amazingly like the real thing! Keep it hidden.

ZCHESS.COM: Chess with a 1-6 level look ahead.

OTHELLO.COM: You learn it in minutes, master it in years.

BIO.COM: Generates custom graphic biorhythm.

MM.COM: Master Mind.

WUMPUS.COM: This is the famous 550 point super version of Adventure. There isn't room on one disk for this program and all the data files (the cave is huge) so the data files are on Disk M4.

Morrow Disk M4
Adventure Data & Aliens

ADVT.DAT: This disk contains the data files for the 550 point Adventure (the latest, greatest, most cussed version ever devised by half-mortals). You must have both M3 and M4 to play Adventure.

ALIENS: This is the game that made arcades famous. Keep this one hidden from the younger set or you won't get to play Adventure.

Morrow Disk M5
MX-80 Graphics

A complete Epson MX-80 graphics printer package including example files. Same as M6 except for MX-80 (or compatible) printers.

Morrow Disk M6
Prowriter Graphics

This is a complete Prowriter printer graphics package written by the same Micro C subscriber who wrote the MX-80 graphics package. Plot points, lines, circles, boxes, and more. Examples, documentation, and more.

Morrow Disk M7
Small C Version 2 Compiler

This is a greatly extended version of Ron Cain's Small C compiler. Version 2 has more expressions and larger library, true subset of Unix C. Disk contains compiler, documentation, and library — everything you need.

Morrow Disk M8
Small C Version 2 Source

This disk contains the source (written in Small C) of the Small C version 2 compiler. Get M8 if you want to try extending the compiler. (You must have M7.)

Morrow Disk M9
ZCPR

ZCPR: The big news on this disk is the self-installing version ZCPR available only from Micro C. Once you have ZCPR in your CP/M, you'll never go back to straight CP/M! For instance, ZCPR searches drive A for any program not found on drive B, so, even an empty disk in drive B appears to contain every program on A. It's great for text editors, compilers, etc. Plus many more new features to make CP/M easier to live with. In fact, Digital Research incorporated many features of ZCPR into CP/M 3.0

EX14: a super replacement for SUBMIT.

Morrow Disk M10
Assemblers

We've received a lot of requests for a Z80 assembler. So Dana put in some long hours getting the Crowe Z80 assembler to run on the Morrow (and every other Z80 machine).

CROWECPM: This is a first class Z80 assembler. We use this assembler daily (and we included its source). Takes standard Zilog mnemonies.

LASM: This is a more powerful version of the ASM assembler you received with the Morrow. This will link multiple programs together at assembly time.

PRINTPRN: This program makes it easy to print the listing files generated by the Crowe assembler.

Morrow Disk M11
Library & Checkbook Programs

CHECKS: This has been a very popular group of programs. Categorizes checks so you can keep track which are tax deductible and which get charged to which projects. Includes source and excellent example check files. Very powerful.

LIBR: This is a complete set of library routines which let you group files into a single file called a library. Then CP/M sees them as a single program, but with the library routines, you can list them out separately, run them separately, or divide them up again. Almost like a unix environment.

Morrow Disk M12
Pascal Compiler

This is a real Pascal compiler. It supports only a subset of the language (no records, pointers, Booleans, reals or complex) but it generates a real .COM file. Everything is on this disk: the compiler, its source, example programs and documentations.

Morrow Disk M13
Z80 Tools

This is for those of you who are into Z80 assembly language.

XLATE.COM: A very good 8080 to Z80 translation routine.

DASM.COM: An easier to use version of ZZSOURCE (the Z80 disassembler). This full disk includes source and documentation for both routines.

Morrow Disk M14
Z80 Macro Assembler

This is a real Z80 macro assembler! Syntax, closely follows RMACK and MAC. Also includes pseudo-ops to support conditional assembly, etc. No phase or relocatable code.

Morrow Disk M15
Turbo Pascal Games I NEW

We've combined eleven games on this disk using Turbo Pascal's "chain" procedure. Play BACCARAT, BLACKJACK, HORSERACE, KENO, and more without losing a penny. Source is included for all games.

NEW Morrow Disk M16
Turbo Pascal Games II

A variation of Yahtzee, a planetary lander game, a Wumpus hurt, a version of Life, and much more to keep you glued to your keyboard. Like M15, this disk uses the "chain" procedure of Turbo Pascal to combine the twelve games. All programs include source.

Morrow Disk M17
Turbo Pascal Games III NEW

If you like Turbo as much as we do and want to see more involved program examples, this is the disk for you.

CRIBBAGE: the time honored card game.

DBLICK-V: a great version of Breakout, even without graphics.

ELIZA: converse with your computer. Everything you need to create it's own perverse personality.

GERMS: two types of germs battle it out in this version of Life.

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UPDATE

SOFTWARE RE-REVIEW

PRODUCT: ShadowPrint (SPRINT)
(available for CP/M 2.x only)

VERSION TESTED: 3.2

MANUFACTURER: Common Sense Systems
Associates (CSSA)
P.O. Box 563
Winchester, MA 01890
(617) 861-7333

DISK SPACE: 24K

PRICE: $50

by Mike Allen

It isn't often that a reviewer gets the chance to eat his words, but that pleasant experience was recently mine. The last issue of MOR (Vol.2, #4, August, 1985) published my not quite favorable review of SPRINT version 3.1. In fact, ShadowPrint (SPRINT) version 3.2 corrects most of the objections I expressed in that review.

For those of you who missed my previous review, ShadowPrint is a software print buffer. It allows you to use your computer at the same time that something is being printed. If you do a lot of printing, and/or have a slow printer, it is nice not to have your Morrow tied up talking to the printer.

To give you the bottom line first: it works, it is easy to use, it is flexible enough to satisfy both the novice and expert user, and it is reasonably priced.

CSSA was faced with a difficult problem: How to make SPRINT easy enough for the novice to install on the MD2/3's—retaining the menu system (in all its different versions)—while allowing the advanced user to make use of all the features and customization options. Their solution is to provide two different methods of installation. The first is fairly automated—it looks at your menu, modifies it as necessary and then installs SPRINT on your NewWord disk. If you only use SPRINT for word processing, this is all you need. If you want to make fuller use of the program, CSSA supplies a comprehensive tutorial so that you can integrate SPRINT into your menu, tailored to your own needs. For example, if you want the keyboard to be more important than the printer, you can establish that priority by adjusting several different parameters to affect this.

Another nice feature is that you can execute SPRINT command functions even while running other programs, simply by typing ^_ (CTRL-Underscore). This means, for instance, that if you are running Correct-It from NewWord while NewWord is printing a file, you can also issue SPRINT commands, such as, abort printing the present document, change the print queue, or change the sequence of the print queue. Although most of the time SPRINT is transparent to the user, there are times when you want direct control, and you don't want to have to go to the CP/M level to do it.

There are several things the SPRINT user should be aware of:

1) SPRINT replaces the Console Command Processor of CP/M (CCP) while installed. This gives you several extra features that the standard CP/M CCP doesn't have. For example, the user area is included in the prompt B3> for drive B, user 3. If you don't find a program on the logged drive and area, you can do an automatic search to a "default" area (set to A0 when distributed but easily changed)." And you have an honest-to-goodness working resident XSUB function. Your original CCP (even ZCPRx) is re-installed when you exit from SPRINT.

2) If you get the "Abort, Retry or Ignore" message while using SPRINT, you must first answer "Abort". When the message repeats, answer "Ignore" and then upon the next repeat of the message, answer "Abort" again if you wish to abort. This is due to the way that Morrow implements error trapping, and there is really no way that CSSA can handle it without a complete re-write of the Morrow BIOS.

1) SPRINT replaces the Console Command Processor of CP/M (CCP) while installed. This gives you several extra features that the standard CP/M CCP doesn't have. For example, the user area is included in the prompt B3> for drive B, user 3. If you don't find a program on the logged drive and area, you can do an automatic search to a "default" area (set to A0 when distributed but easily changed)." And you have an honest-to-goodness working resident XSUB function. Your original CCP (even ZCPRx) is re-installed when you exit from SPRINT.

One of the most impressive things to me was the response I got from CSSA on my objections to version 3.1 of SPRINT. Rather than try to convince me that the problems really didn't exist, they listened, asked relevant questions and then fixed what they could. I was given honest, comprehensive explanations about what they had fixed and why they couldn't take care of Morrow's error handling or TurboPascal's unfortunate compilation scheme. (With reference to the latter, the easy solution is just re-compile your TurboPascal programs while SPRINT is installed.) CSSA seems to really be concerned about producing a useful, quality

---

Mike Allen fieldtests airborne Electro-Optical systems as an Engineer at Westinghouse. Involved with personal computers since 1977, he bought an MD3 about a year and a half ago, believing it was the most machine for the money. He still thinks he was right.

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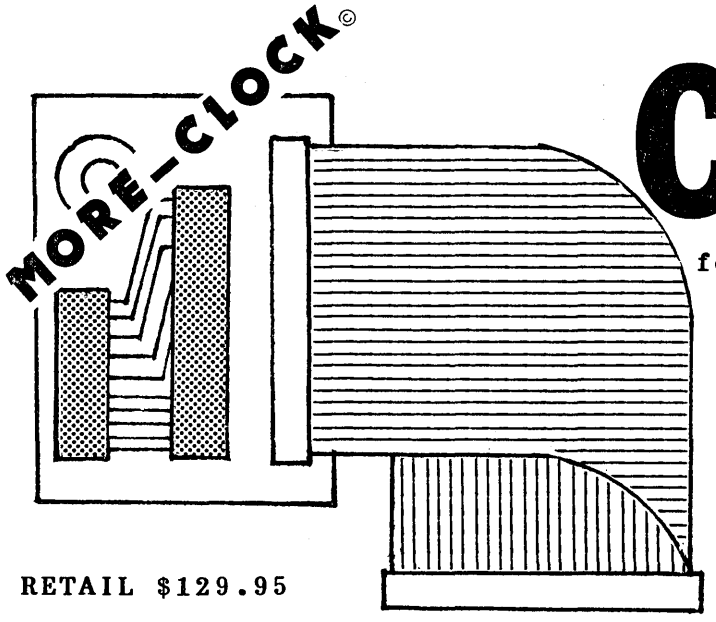
product. I received the version 3.2 update two days after having talked to CSSA about the problems that I had with version 3.1. Unfortunately this was too late to catch the MOR deadline and my revised review didn't get printed.

There are more features available with SPRINT than I can do justice to in this short space. The novice will not even notice that the program is installed—except for being able to use NewWord while the printer is busy—and advanced users will discover increasing applications the more they use SPRINT. Like the computer itself, SPRINT is only limited by the user's imagination. My advice is take that fifty bucks out of the hardware buffer fund and install SPRINT.

NEW MD3 with 300 Bd modem (Signalman Mk VII) and all bundled software + MDM730 modem software and instructions: $580. Used MDT60 terminal: $115. MP200 printer with bi-directional tractor $455. Sypko Andreae, (415) 658-0152, leave message.



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AN OVERVIEW OF PERSONAL PEARL

by Bruce M. Gowens

Today's database programs are still at a primitive level. You can get a program that does most of the work for you, or you can get the programs and languages to write your own. In the latter case, you end up with a nice functional database for one purpose that can't do anything else without a lot of pain or re-writing. And general purpose database programs are large and complicated, since they have to find, sort, relate, and select any mixture of data and data types.

So when Morrow, Inc. looked for a database program to bundle with the MD computers, there was a choice of a very simple filing program or a complex and intimidating programming language. Since Morrows are basically business machines, Morrow couldn't settle on the simple and limited. And since businessmen have more important things to do than computer programming, it had to be as easy as possible to set up, get running, and change as needs are discovered.

Morrow chose a program with lots of power for the real database users (such as businesses) with a simple start up library for the home user. It takes a bit of setting up (Design Forms, Design Reports, etc.) for the heavy user, but it isn't going to be so dumb that all it can do is keep your checkbook or recipes.

The program is, of course, Personal Pearl.

Considering the options, Morrow did best with Pearl. You and I are, in fact, either making Pearl do the job, buying a simpler or more complex program, having a custom program written, or "throwing up our hands."

Some might criticize that a better program was available. "Better" depends entirely on what you wish to do. The main competitor for the same flexibility was dBASE II, but dBASE II has limitations that Pearl easily surpasses.

Where dBASE II has a "language," Personal Pearl asks you to lay out a form on the screen. Where Personal Pearl can access up to five forms (databases) at the same time, dBASE II can only access two. To make dBASE II as flexible would require real programming skills and lots of file opening and closing time during operation.

Of course, dBASE II has some features that Pearl does not.

When dBASE II first came out it was a startling and amazing thing that there could actually be a data base program for micro-computers. It still is a first generation program. Personal Pearl is second generation.

Pearl does have a poor reputation. Much of this comes from its poor treatment at the hands of computer manufacturers. Osborne duplicated the first set of Pearl disks without "serializing" them. Unfortunately, that means they won't work on any machine. Also, the help files were put on the wrong disk. Result: a lot of dissatisfied Pearl users. Moreover, the Osborne 1 was not a good match for Pearl. SS/SD disks meant too much disk swapping.

The Morrow MD2 requires a lot of disk swapping as well. Since all of Pearl won't fit in 186K, room has to be left on the Sort disk for a temporary file, and 186K is small for large collections of data.

Then Morrow also made things hard for Pearl users by providing a Pilot installation program that just didn't work. And the manual confused the Tutorial and the Reference, and nobody could find anything!

Most other complaints arise from unclear instructions. Pearl's documentation needs improvement. In order to explain their concepts to non-computer people, PearlSoft tried to choose descriptive terms that would be relevant to the non-computer world—thereby inventing their own jargon.

For example, their word "form" replaces the computer-word "record." But is there anyone in the business world that has trouble with the concept of a record? To compound the problem, they use the word "form" to mean not only the record that is saved, but also the layout that one fills in on the screen. Then, perhaps realizing that they were unclear, they made "Layout" a special word.

Take the word "program" (noun/adjective). When told to put your "program" disk on drive B, which disk would you choose? Most people would understand that to mean Personal Pearl. PearlSoft means the disk with your installed forms and reports, generally your data disk. Unless they mean Personal Pearl, or a design disk separate from the production disk. Unless . . .

Otherwise, the documentation is step-by-step through the tutorials, which are good in terms of process.

But the worst problem with Pearl is that everybody expects differing and often contradictory things from the program. New computer users usually expect less learning time and more ease in doing all those wonderful things that they have been told a computer will do. Experienced users often want to do more than

---

Bruce Gowens is a member of the MOR Editorial Council and is writing a book on Personal Pearl.

Turn on Your MDT-20 Arrow Keys

Tired of hunting for the correct Wordstar control key to press when typing? This ADM-20 (alias MDT-20) Upgrade Kit enables your arrow keys to send the correct control key and defines F1 thru F7, CHAR INS/DEL and LINE INS/DEL as useful control keys. Check out these added features:

- 19 Programmable function keys (Smartkey II compatible).
- 37 Graphic shapes available via ESCape sequences.
- 48 Character type-ahead buffer. (Requires 8 wire RS-232 cable)
- Screen Saver protects your terminal by blanking the screen after 10 min. of inactivity (Serial No. > 25110000 only).

The Upgrade Kit is $40, plus $14 for an 8 wire RS-232 cable (when ordered with Kit). Prices include shipping/handling. Arizona residents add 6% sales tax. Sorry, no COD or credit card orders. Please specify terminal serial # with order.

SOFTWARE TECHNIQUES
3537 West Charleston Avenue
Glendale, Arizona 85308
(Reviewed in MOR #4, Oct. 84).

a program is designed for or expect to deal with it on a "language" level. A computer manufacturer who selects a program to be "bundled" can only choose one, hoping to satisfy the widest range of wants.

In general, the problems new users have with Personal Pearl are more likely to be with the complex nature of databases in general than with Pearl in particular. Pearl is the hardest to learn and use of the software that came bundled with your Morrow, but not because of program design.

So, should you consider replacing Personal Pearl? You already have Pearl, and any other program is going to cost you money. If your database needs are simple, a simple program might be cheap enough to warrant saving the learning time any flexible database program like Pearl requires. Also, such a simple program might be all you ever want. However, "needs" grow as desires grow, and as you master one thing, you want to do another, and then you'll want one database to feed data to another.

For example: You can get, write, or have written an inventory control program. Or you can use a database that will take the value of your inventory and include it in your balance sheets as part of your bookkeeping. And, at the same time, you can get it to warn you of low stock levels, compute return on investment, rate of sale, shrinkage, and the rest of the things you need to know to run your business well. If you've started with a simple filing program, you'll run into its limits.

The choice between using Personal Pearl to generate your own system and purchasing a commercially available "vertical market" system will depend on how

WHAT'S NEW FOR PEARL?

The current CP/M version of Personal Pearl is 1.10 (version 2.11 for MS-DOS). Version 1.05 came with my MD2. Most differences between 1.05 and 1.10 are not readily apparent. There are a few new messages, one telling you when you've selected out all data when printing a report. Unlike 1.05, dates on 1.10 are displayed with leading zeros, which is more awkward if you are changing a lot of dates in edit mode, but otherwise unimportant.

The two most obvious changes are some new paragraphs in the manual and the addition of Function 7, File Recovery.

The 1.10 manual has had no major re-write. The packaging from PearlSoft is a nice 3-ring loose leaf binder in a slip-cover box, with a moderately large number of typos that are easily interpreted. The few added sections concern Command Line Entries that can be used with 1.05 (see Sidebar) and a section on using Pearl with SuperCalc instead of LogiCalc.

In my estimation, Function 7 is not as complete an addition as it needs to be. It copies a damaged data file and deletes bad records. This means that you may recover most of your data at the cost of a few records. Unfortunately, you will know only how may records were deleted but not which ones. There should also be a "bad records" ASCII file created. Even if it is mostly garbage, there may be enough there to let you determine what records got lost and need replacing.

Function 7 doesn't work all of the time. It has worked once out of two tries for me. I was happy to recover that one bad file because, like a true disbeliever in Murphy, I hadn't made a backup. If you make a practice of regular and frequent backups you should never need Function 7.

Pearl is good at testing for and handling data errors—perhaps you'll think too good at times. But there are only a few things that will foul up a data file. Most come from the hardware, such as dirty heads and power outages or spikes. These can be protected against, but your best protection is frequent backups.

PearlSoft will upgrade you to 1.10 for $75. Worth it? That depends on how "religious" you are about backups.

well-suited and adjustable the commercial system is, the cost, and how future-flexible it is. One of the great advantages of Personal Pearl is the ability to change the database as needed without losing any previously entered data and without expert programming assistance.

For clarity, then, in helping you make your choice, I'd like to point out the main drawbacks and advantages of Personal Pearl. This overview is by someone who uses the program heavily and loves it for all it does. The long list of complaints and negative aspects might tend to hide the fact that there is little better on the market, and that Pearl has some shining virtues. I think its greatest is a hidden one that we all expect but seldom find. It works. It keeps working. And it has few, if any, bugs.

DRAWBACKS OF PERSONAL PEARL

- **The lack of logical operators.** In other words, Pearl cannot select subsets for reports on the basis of logical conditions, such as: AND, OR, IF...THEN, EXCEPT, etc. This lack is felt both when selecting records and when laying out the report.

  When finding records in the edit mode it would be nice to choose two or even three key fields to limit the number of records one needs to "browse" through to find a particular one. For example, Item Number AND Date Of Transaction. When selecting high and low values for reports: EXCEPT Item Numbers 600-700, IF "0" THEN "don't print", and IF negative THEN "print elsewhere" (for two column balance sheets).

  The lack of logical operators can often be overcome with careful selection of the data structure, but often the need is not felt until the database has grown too large to manually change the values in every field.

- **Pearl's inability, as delivered, to batch operate.** The add-on utility Pearl File Load solves part of this problem, but there is no convenient way to batch out a set of reports.

- **Pearl's inability, as delivered, to load ASCII files into the database.** This is corrected with Pearl File Load.

- **The large disk space overhead.** This may not be peculiar to Personal Pearl, but even moderate sized business databases will require a hard disk. If you are merely keeping an address file, with only one indexed field, floppies will do. This large overhead is a direct result of the convenience and speed with which Pearl finds and displays records in edit mode, so the "fault" is debatable.

- **The amount of RAM needed.** With a 64K computer there is little left for utility programs such as SmartKey. Of course, Pearl does have a number of nice "speed features" (such as ^N) for data entry, and my experience is that SmartKey is no great advantage with Pearl.

- **The inability to subtotal on any sort level other than the first,** and no sub-sub totals. This is a real drawback for business analysis.

- **The difficulty of getting a "running balance"** (such as you use in a checkbook register).

- **Initially, no method of recovering damaged data files.** Version 1.10 of Personal Pearl a new

PEARL MEMORY REQUIREMENTS

If you run out of memory when installing a form it's just too big, and this tip might show you the most efficient places to cut it back. Even if the form does install, it is possible to run out of memory when entering data so cutting back a little extra could be a good idea. The following is a paraphrase from a PearlSoft Technical Memo dated August 1983.

Subtract the size of your operating system (CP/M) plus the size of the Pearl program from the 64K of your MD2 or MD3. The remaining space is what you have available for the form or report. Now, calculate the amount of space your form is going to take.

Referring to the table below: for all but a computer numeric field, multiply the Length Factor by the Length of the field and then add the Fixed Overhead. For a computed numeric field, sum the required memory for each data field referenced in the computation formula.

Multiply the length of your background text by 1.2. For each data field drawn from another form add 1000 to your grand total.

ITEM	FIXED OVERHEAD	LENGTH FACTOR
Non-Indexed Character Field	70	3
Indexed Character Field	70	8
Non-indexed Date Field	90	0
Indexed Date Field	140	0
Non-indexed Numeric Field	85	3
Indexed Numeric Field	85	8
Background Text	0	1.2
Data from other forms	1000	0

You can edit your INSTALL.DAT file to learn the amount of free memory when you install a form. Add the line MESSAGE=1 to the file anywhere before the start of the line * TERMINAL SCREEN LAYOUT and then re-personalize your copy with WELCOME.

COMMAND LINE ENTRIES

The Pearl 1.10 manual calls Command Line Entries "Quick Entry." You can go directly to your operation from the CP/M prompt. This works with Version 1.05, and is a great time saver.

At the CP/M prompt, enter the Pearl Service, space, the form name, comma, and the report name. Examples (done at the CP/M prompt):

```
PEARLDF FRMNAME (to modify an
                 existing form)
PEARLDR FRMNAME (gives the report
                 directory)
PEARLDR FRMNAME,RPTNAME (existing
                         report)
PEARLED FRMNAME (the form will come
                 up)
PEARLPR FRMNAME (gives report
                 directory)
PEARLPR FRMNAME,RPTNAME (gives the
                         1-3 menu)
PEARLFM FRMNAME (gives the function
                 menu)
PEARLI FRMNAME or
PEARLI FRMNAME,RPTNAME (that form
       or report will be installed)
```

This is useful because it enables you to install a mess of forms and reports by using SUBMIT.COM. Your PEARLI in the above syntax.

Be careful that the report name is correct or Pearl will keep asking for the application disk, and you'll have to reset.

addition, "Function 7" in File Maintenance, to correct this. (See Sidebar "What's New For Pearl.")

- **No simple "QUIT" command to put everything away and bounce you into CP/M from wherever you were.** (Don't use reset or ^C from Enter Data; you might lose everything you just entered! A note missing from the Morrow Pearl Manual, but not from the version 1.10 manual.

- **The manual.** Not only its non-standard and sometimes strange vocabulary, but also its incomplete error messages and lack of trouble-shooting aids make this a real drawback. There are scads of error message codes in Personal Pearl that are not mentioned in the manual. A more complete list and fuller suggestions of corrections to try are needed.

  More "tricks," data structuring, planning and operating methods should be included in the manual. Version 1.10 has a small improvement in this area, discussing which form you should use to compile one report from several. (See Sidebar on "Command Line Entries" for another.) Generally the manual suffers from the assumption that the user will have experience with computers and data handling.

  The index is not complete enough. While it is large and covers the major subject categories in the manual--which is better than most program documentation does--it's not good enough for complex application-oriented software. Thought should have been given to the uses Pearl would have, and index entries made for those uses, such as "Balance" and "Running Balance."

ADVANTAGES OF PERSONAL PEARL

- **A simple and easy step-by-step method of designing forms and reports** that shows on the screen just what you will get. No esoteric codes, location references, or need to fill out a table of specifications for each field. Simply type in the prompts and lay in underlines for the field (setting its size as you do.) Then tell Pearl what else has to be done by menu selection, moving the cursor and answering questions.

- **The ability to change field size, index, add or delete fields, etc. without losing the data already in the file.** This is particularly advantageous since you'll probably find unanticipated uses in the future. Even major restructuring of the database can usually be done without re-keying anything.

- **The ability to selectively load a new database with data from an old one.** You can "browse other forms" and use ^U to save the ones you want into the new form. A bit of work, but faster than re-keying if you don't have Pearl File Load. After the data is transferred, the form is re-installed, with the link to the previous form broken.

- **The (almost) unlimited database size available.** As a practical matter the 64K of CP/M will limit the number of fields that can be processed. A very complex data base that draws from several other forms will be limited to 30 to 36 fields. A simple data base could have more than 112 fields (dBASE II's maximum is 32 fields). The limit on records depends on your disk drive size and how long you are willing to wait for sorts and reports. (See Sidebar on "Pearl Memory Requirements.")

- **Data is stored in a compact and efficient way.** Should you make a field fifty characters long and only store one character in it, Pearl will not store 49 blanks on the disk. Thus you don't have to plan for minimum field size and then try to shoehorn long descriptions into a field that is too small. Storage is binary, not ASCII, so even large numbers take very little storage space. If you should add data to a record while in edit mode, Pearl will write the record to another part of the disk, so nothing is lost. Then occasionally you use the File Maintenance program to recover the disk memory thus left between active records.

Pearl Support

With a program as complex as Pearl, support is a necessity, but paying for it can create a problem. Bundled software sold at a discount to Morrow does not have the mark-up to encourage PearlSoft to give you unlimited help, although I have found them helpful. PearlSoft has two levels of support. New users only pay the cost of the phone call. After 90 days, PearlSoft offers their Support Agreement plan, which provides an 800 number and unlimited help (within reason). This is not only a lot less expensive than other software support agreements, but if you need a lot of help, the 800 number can save enough to pay for the service. (For charges, see box below.)

Now I'm going to stick my neck waaaaaay out, and offer to help. MOR subscribers having problems with Pearl can contact me weekdays from 5-11 PM, or weekends after 10 AM, California time, at (408) 272-7657. No collect calls, and please try to figure it out by yourself first. A Single-sided Morrow or Osborne disk with a text file of your problem and the related forms and reports would be better than a phone call. Include return postage in stamps (or you won't get it back!) and permission for me to call you collect if you are in a hurry. Send it to: Bruce Gowens, 2501 Dobern Ave., San Jose, CA 95116. If I get a terrible flood, I won't be able to handle it, so I may withdraw or limit this offer in the future. I also can't be responsible for any disks or problems caused by my suggestions (SO BACK UP EVERYTHING!), and although I'll be as quick about responding as I can, I make no promises.

[Submitted to Morrow Owner's Review for First North American Serial Rights. Copyright © Bruce M. Gowens. Parts of this may be reproduced in a forthcoming book on Personal Pearl.]

[Bruce Gowens will host a Personal Pearl Q &A column, starting with the February 1986 issue. Send your questions to MOR, PO Box 5487, Berkeley, CA 94705. Please note: "Attn: Bruce Gowens" in the lower left corner of your envelope. --Ed.]

Pearl upgrades and Pearl File Load can be purchased from your dealer or PearlSoft. The Support Agreement is available from PearlSoft. Mail or Phone orders can use MasterCard, Visa, or AMEX.

Upgrade:	$ 75.00
Support Agreement, 1 yr:	59.00
Support Agreement, 2 yr:	99.00
Pearl File Load:	100.00
File Load Support, 1 yr:	25.00
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SOFTWARE REVIEW

PROGRAM:	**Pearl File Load**
VERSION TESTED:	3.00
AUTHOR:	PearlSoft
MANUFACTURER:	PearlSoft, Inc. P.O. Box 638 Wilsonville, OR 97070 (503) 682-3636
DISK SPACE:	84K (Including PEARLFL.COM, 10K and PEARLFL.LIB, 58K)
PRICE:	$100

by Bruce Gowens

If you are a user of Personal Pearl, or intend to be, you can't help but notice that one of the biggest problems with the program as delivered is that there is no facility for "batch" operations on records or fields. Now, however, PearlSoft offers a file loader utility that enables you to do batch operations on deleting records, adding files from other programs or ASCII files, or change selected fields in selected records.

Pearl File Load (hereafter I'll just say FL) is a utility program that allows you to batch add, delete, modify and replace records and individual fields of a Pearl database.

The process is simple. By using Pearl Report Option 1, you select the records to be worked on (such as paid receivables before 8/21/84) and produce a report to disk. If you are changing or adding a field, you put the new data in the report as text when designing it. This report is the .DAT file. You can use any text editor (WordStar or NewWord) to write a short control (.CTL) file that directs FL. Then at the CP/M prompt you enter PEARLFL FILENAME (of the control file). Sometimes you will run PEARLFM (Pearl File Maintenance Program) to upgrade your index or condense the database.

Your .DAT file does not have to come from Pearl. You can use an ASCII data file from any other program to set up a Pearl base; that is, your data could be received by modem, a Basic program, some other database program, or even a list typed in with WordStar.

The .DAT file can have its fields separated by end of line or any character(s) (including quotes and commas from Basic; the quotes need not go into the fields). It can have fields not used by the Pearl database, and fields in the data file don't have to match the Pearl database's order. It can leave fields blank or skip background text and other "garbage."

With FL you can control the size of your files by regularly deleting old records—closing out a year or month, for instance. Changes can be made to selected records (such as credit status based on receivables aging) without keying in each change. This suddenly makes Pearl practical for single sided drives, since old records can be batch-loaded into an "archive" and deleted from the working base.

One oddball use for FL might be when you make an error in the data type when installing a form. Normally there's no way out of this trap. FL can help by unloading data from one field, and then reloading it into a field of another type.

The .CTL file looks and acts like a short little program. It's basically a list of parameters and fields that determine what is done to the Pearl database. The special words and syntax are as clear and simple as English. An examples: "OPERATION = ADD" (or DELETE, MODIFY, REPLACE or UPDATE). For regularly done operations, the control file would most likely be designed only once.

The manual is a nice 3-ring binder containing an introduction, step-by-step tutorial, listing of the control file commands, ASCII table, trouble shooting appendix, list of error messages and solutions, and an index. The reproductions of the sample control files and the report layouts are small and hard to read, but the rest is properly typeset. Unlike the Personal Pearl manual, this one uses real English and normally expected terms such as "record" and "field." There are, like Pearl itself, error messages that are not in the manual. You can set a message level in your control file to help you trace a problem, however.

The tutorial says, "Be sure MOD.DAT, MOD.CTL and FL.D01 are all on their proper disks." It doesn't, unfortunately, mention which are the proper disks/drives. If the files are on the wrong disks, you'll get FL Error Message #12 (which isn't, of course, in the manual). You can actually have either file on any drive as long as you specify in the usual D:FILENAME manner. This can be useful since the .DAT file can be long (being ASCII and not the packed form of the .D00 files). The tutorial does not tell you to use the destination drive when making your .DAT report, and that will give a lot of learners a headache.

Exercise 3 in the tutorial, "Delete," instructs you to test the changes with a report before running PEARLFM to clean up the database. Run PEARLFM before printing the report, else you'll see the dreaded "Lost Data Integrity" message. No damage is done, just run function 2 or 3 of PEARLFM. Running PEARLFM is not necessary for all of FL's activities, but must be done when deleting files.

Do not use the TAB when using WordStar to generate your control file. TAB puts a character (09H) in the

file that FL cannot understand. It looks perfect, of course, and can be very frustrating. Erasing tabs solves the problem.

FL will not trigger the calculations that would normally take place when you enter data, but it will plug data into a field that is normally calculated. If a form calculates the field to be filled, you will have to have the calculated value in your .DAT file.

An example should make this clearer: I have a form SPCONSO where I enter quantity and item number from a cash register tape. The report LOADJRN.DAT for FL to add to form SPJOURN (Journal/Inventory) is from SPCONSO. Normally SPJOURN accesses form SPIN (Item Number) to find the cost of each item and calculates the amount field. Using FL, the report from SPCONSO accesses SPIN for the calculation, and thus the amount is in LOADJRN.DAT for SPJOURN's Amount field.

Since SPCONSO is a temporary database (you use it only for the data you want to add to SPJOURN), FL "empties" it by a total deletion before each use. The old way was to erase SPCONSO.D00 and re-install the form and its reports.

Pearl File Load is not difficult to learn (but give the tutorial three hours). Anyone using Pearl heavily will wonder how they did without it. It is so valuable and necessary that these features should have been part of Pearl from the start. It's like buying a new car, and then discovering that the steering wheel is an extra "utility."

[For information on the price of Pearl File Load, see box on page 25.]

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SPECIAL CREDITS

Front cover illustration . . . . Nancy Redin
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LET'S GET RID OF PERSONAL PEARL
And Look at Some Options

by I.I. Butler

My local user's group meets at the office of a Morrow dealer, who attends and comments. One day he remarked that he always recommends to all his customers that they buy a database program different from Personal Pearl. He himself is a database programmer and consultant to health care and accounting professionals. He added that just a few days before, he had finally reformatted his Pearl distribution disks to use as blank disks, "figuring it was their highest and best use." I agree. Pearl was the worst possible choice of both the type of database and the specific program, which Morrow could have made.

What Types of Database Programs Exist?

There are really five types of database programs available for CP/M computers [all prices list]:

1) Under $100, usually under $50, & sometimes public domain. The general purpose menu-driven simple filing and report system (e.g., PCFile)

2) Under $300 and usually under $200. General purpose menu-driven adequate relational database programs (e.g., InfoStar for Kaypro and Osborne, but not yet for Morrow)

3) Under $400 and usually under $300. General purpose powerful relational databases, requiring programming, and some with their own programming language (e.g., dBASE II)

4) $400 and up. Specific application databases (e.g., for doctors, dentists, lawyers, etc.), some of which are add-ons to existing general-purpose programs (e.g., you may need dBASE II first to run them)

5) Do-It-Yourself, Programs you write yourself in BASIC or another language for your specific needs and assemble and/or compile.

What Are the Best Programs?

There is a statistical profile of the average user of most brands of computers, but few individual users are close to the statistical average. Of course, each one already has the choice of what kind of database he or she wants to buy separately, and that is the "best" for that user.

There is a clear best choice for a manufacturer bundling software for all users—Type 1 simple file-and-report systems. In fact, the majority of users prefer Type 1. In any operating system (including IBM's MS-DOS and Apple's various DOS's), Type 1 programs are almost always among the biggest sellers and the most popular programs in user-response surveys. You can usually start using them the same day you begin learning them. Corporations that provide personal computers and support software always provide one and support it. The majority of all users, probably at least 65 percent, will find that a Type 1 program does everything they will want from a database all, or almost all, of the time.

There is an even better choice for a manufacturer: Include a Type 1 simple file-and-report program in the system price, and offer all buyers the one-time chance to buy one of the most powerful Type 2 menu-driven relational database programs or a Type 3 powerhouse with programming, because some sophisticated users will always want more power and more features. However, there is always the temptation for the manufacturer to compromise on a so-so Type 2 program, as being a cheap compromise between the vast majority of users and the vocal minority who want power and features.

Also, if the program is general purpose (Types 1, 2 & 3), it is a truism that the best programs for that purpose are almost always the most popular ones. They are the best documented, because over time the publishers clean up the manuals and the aftermarket publishes help texts. They usually (but not always) are the most debugged, because with high sales and customer response the publisher can afford and is motivated to remove bugs and improve the program. The most support is available from consultants, classes and all kinds of user groups, not just the user group for one brand of computer, but also user groups for that program.

The Mistakes Morrow Made

Pearl is Type 2, the general purpose, menu-driven so-so program. That was a mistake. Cost-based compromises often are. A MicroPro representative provided the inside information that, before Pearl was chosen, Morrow was negotiating for a Morrow version of InfoStar. Pearl was chosen (according to MicroPro) only because one staffer (who was a skilled programmer and hardly needed a manual for any database program) liked it, and because it was free, except for disk-processing and manual printing expenses. This was a marketing decision. Marketing decisions should never be made by programmers.

Pearl was free, however, only because it was not ranked in the best sellers. Its publishers were

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I.I. Butler is a lawyer with offices in San Francisco, mainly representing small businesses, including computer and venture capitalists. He uses a Morrow MD3 80% for word processing. He collected the information in this article in the process of searching for the best database program for mailing lists, calendars and billing.

looking for the broad circulation through Morrow-bundling to build them the large user base they lacked. To some extent, they succeeded. Morrow was looking for a compromise cheap program to meet most needs of most users. In my estimation, they failed miserably on everything, except the price . . . unless you figure Morrow lost market share to Kaypro, because of Kaypro's better all-around software bundling, even though Morrow is the better engineered system.

Morrow should have bundled a Type 1 program with all systems and offered all customers the chance to buy a Type 2 or Type 3 program at a substantial discount at the time of purchase of the system. Barring that, they should have completed their negotiation with MicroPro for InfoStar, which they abruptly cancelled. InfoStar was the top-selling Type 2 program for the CP/M operating system, and it is a lot better than so-so.

What Is Wrong with The Pearl

Pearl is a lot worse than so-so. In as few words as possible, I think it stinks. It was a lousy seller because it was (and in my opinion remains) a lousy program. It is among the worst documented and worst supported database programs. It lacks features most users will want. If you have tried to use it and given up, thinking you just don't get it, don't think you are deficient. You are average.

After experiencing some difficulties with Personal Pearl and making inquiries, I discovered:

a. Most Morrow owners I know either never tried to use Pearl at all, or found it unsatisfactory, and purchased a different database program.

b. Most dealer personnel involved in software support report numerous inquiries and complaints on Pearl, especially following sales, and they often advise purchase of a different database program.

c. Up until now, MOR has published virtually nothing on Pearl, compared to other programs, and BAMDUA charges for classes on it.

d. My experience with PearlSoft has been less than satisfactory. In response to my inquiry, I received a form letter saying, "your letter has been forwarded to our Customer Support Department . . . . If you have not received a satisfactory response from our company within ten working days . . . please notify me right away. . . ." Two and one-half months later, I got my reply from Customer Support, offering admissions of shortcomings in the manual and program, apologies and justifications, but virtually no real help.

e. You can fill your wastebasket with instructions for installing Pearl, which are different for many different versions. Whatever route you take, whether from the CP/M master diskette and PILOT or from a sheet of instructions, you had better write down verbatim certain instructions that appear on your screen. If you make a mistake, the only consistent remedy is to go back and start from the beginning.

f. The Pearl manual speaks for itself, containing lousy grammar, confusing terminology, and generally poor instruction, requiring more tabs, marginal notes and cross-references than anything else you have ever tried to use. In some early versions, even if you follow the tutorials exactly, they won't work! (Ignore the tutorials and use the reference portion of the manual exclusively.) Even then, the manual seems to be a creative exercise in how many different kinds of terms can be used to describe disks. Pearl Customer Support admits:

> Your comments regarding the difficulties with the same type disks being referred to by different terms are appropriate. We are working on becoming more consistent in this area. File Maintenance Options 4, 5, and 6 are being rewritten.

g. Even if you learn from the reference manual, without the benefit of tutorials, and are able to decipher the confusing terminology, there are still plenty of things you will want that Pearl just won't do. Among these, Pearl will NOT permit you to create custom menus, unless you are a programmer and purchase a separate Programmer's Toolkit. (dBASE II will let you create custom menus, and in version 2.41 and higher has some files to help you do this, although a real dBASE II programmer prefers to program them from scratch.)

h. Pearl will NOT trim fields to omit spaces, except in a version for 16-bit computers with 256K RAM. [For examples, see pp. 7 and 11. —Ed.]

i. Experienced users of multiple database programs, programmers and consultants appear fairly consistent in reporting they could use Pearl, but found it limited in applications and recommended against it.

What Should Replace Pearl?

The public domain PCFile works with Morrow, but awaits revision to be truly useful. The top choice for a Type 2 general, menu-driven, pretty-good relational database program has to be InfoStar, but there is no version that will run on Morrow. The probable best choice for a Type 3 general, programmable powerful and flexible database program is dBASE II, but you need a little advice in what version Morrow owners should get. If you are a novice, you also need to understand and accept the very real problems with dBASE II.

Type 1 Simple File-And-Report Programs

PCFile (on the FLOB/OCT85) is simple, easy, cheap and it works. However, you must understand you are getting Osborne Version 8.5, which is three years old. I do not know why Osborne Version 8.6 is not available. It may be two years old, but it is reported to be much improved from the earlier version. However, Osborne

folded, IBM introduced the PC, and pundits predicted the death of CP/M. Jim Button of ButtonWare, the creator of PCFile, has turned his interests to IBM and MS DOS. PCFile is now up to PCFile 3, version 3.0 in MS DOS.

I have spoken with Jim on the phone and received a complimentary copy of the IBM manual, and I am genuinely impressed by the clarity of the manual and the number of new features. He said another programmer is taking the existing IBM PCFile 3, version 3.0, and converting it to a "generic" CP/M program. This will be available sometime after January 1, 1986, and if it works on Morrow, I strongly recommend buying the commercial version for $49 to get the excellent manual and the ability to buy upgrades for $10-20, even though public domain versions will be available. It is not clear if you will get these same benefits by getting it from public domain when it becomes available. Sometime around February, 1986, inquire from:

Jim Button, ButtonWare
P.O. Box 5786
Bellevue, WA 98006
(206) 746-4296

I made Jim aware of the ROM differences among Osborne, Kaypro and Morrow, which mean some programs will not run on all systems without patching of hex numbers, including more than just terminals specifications. I pointed him in the direction of NewStar Software and their resident genius-creator Peter Miereau, who are experts in this field. But remember Morrow users are not even in the top four populations of CP/M users: Apple II+ and //e users with CP/M cards; Kaypro 2 and 4 users; Osborne and Osborne-compatibles; Radio Shack/Tandy TRS-80 users.

In the meantime, there are serious limits to PCFile. It can hold only 1500 records. That is probably not a problem for most floppy users, but it is a definite minus for hard disks, unless you want to divide your database in pieces, e.g., sections of the alphabet.

Worse than that, it is stuck with a limitation of being written in BASIC and compiled with the MicroSoft C-BASIC compiler: The total number of all characters in all "fields" (data items, such as name, zip code, etc.) in any single "record" (group of related data items, such as one name, address & phone record in a mailing list) may not exceed 255. The MicroSoft BASIC compiler cannot handle longer strings. In other words, if you have in every record of a mailing list the name, one address with zip and area code and phone numbers of persons, you have pretty much exhausted the capacity of the program. You may have to create a separate record for each address, home and work, a separate record for the spouse, and a separate database for personal information, billing information, calendar information, etc.

POIL: A FIX

It seems that Personal Pearl, as it comes with the MD11, has a spelling error in its codes. When it is seeking records on the hard disk, it sometimes asks for an exchange of disks—and of course you can't comply.

The fix is simple. Check directory of the Personal Pearl distribution disk #1 (there are two Pearl disks for the MD11) for an INSTALH.DAT file. Load the distribution disk in the MD11 floppy drive, and log onto A. Then do:

```
PIP A:INSTALL.DAT=B:INSTALH.DAT
```

Set INSTALL.DAT [sys]. Instead of PIP, you can use NSWEEP'S Copy Command with equal results. It does make the program run the way it should—with speed and convenience.

—Doug Morriss
Las Vegas, Nevada

HOT TIP

HOW TO GET A DIRECTORY INSIDE A FILE.

With an MD11 (CP/M 3.0) it's really easy:

```
A0>PUT CO FI MYOWN.DIR<CR>
```

Now all console output (whatever appears on the screen) will go in the file MYOWN.DIR. If you now run NSWEEP it would record in MYOWN.DIR all that NSWEEP displays on your screen. See CP/M Plus User's Guide, p. 5-77 for details on PUT.

If you have a floppy system (CP/M 2.2) you can use XDIR.COM (see FLOB/OCT85 page 48) to create a directory:

```
A>XDIR *.* MYOWN.DIR<CR>
```

Now you can edit the MYOWN.DIR to your heart's content with WS, NS or whatever.

However, most do-it-yourself custom databases are created with C-BASIC. I met a chemist and programmer, who actually trades industrial chemicals using a database with the same limitations. He gets around the limitations with a few simple devices like code numbers for companies, cities and long chemical names (and their synonyms). I suppose most of us can be somewhat creative. The problem is that most people who want the simplest filing systems don't want to cope with these problems.

MicroPro May Be Willing to Do a Morrow InfoStar

Do not buy InfoStar now, as it exists in over-the-counter versions. MicroPro reports that it works fine on Kaypro and most other CP/M80 computers but not with Morrow. Specifically, when you try to save data, the program terminates. (If you have tried it and solved this problem, tell MicroPro what you discovered; they may pay you.) Also, it has not been made yet to work with CP/M version 3, which all Morrow hard disk computers use.

However, MicroPro is now contemplating a Morrow version. This will probably have all the pluses and minuses you would expect from MicroPro, whose other products include WordStar. In non-package deals, they used to be over-priced in relation to the competition, but recent across-the-board price reductions make them very competitive. (InfoStar $250 list price, a lot less at discount.) It is menu-driven and easier to learn than some other programs.

In the past, MicroPro provided support only to dealers, not individual users, and from the day they published an upgrade, they tended to act as if previous versions did not exist. Also, MicroPro manuals are notoriously wordy, providing more information than you need, but with a very scattered organization. On the other hand, there are already a reasonably large number of independent publications and user's groups offering help.

InfoStar offers some built-in compatibility with WordStar without programming, and with some instructions in the manual how to do it.

Consultants often recommend this program to small businesses, where two or more people must use databases, because most people in the office who need to can learn it, without the long dBASE learning curve or the time and expense required to program dBASE menus for those who won't learn the program.

I have no idea which is the best Type 2 menu-driven database program in terms of number of features and ease of use. If you think you know, write MOR. InfoStar is undoubtedly the most popular, and sufficiently powerful for 90 percent of all users. I would like to see it made for Morrow.

The Wonders and Woes of dBASE II

dBASE II is the most complex and the hardest to learn of the common CP/M database programs, but the most powerful, flexible and satisfying to use, once learned. Fortunately, there are numerous after-market publications and organized classes. It has always had a few bugs, but these are usually documented in commercial articles, and the articles are extensively copied and circulated among users. Many publications and classes offer plenty of help on integrating database with WordStar and SuperCalc1 & 2. Although the retail list price is steep, many stores have dBASE II in the $250-270 range.

Like others, the publisher Ashton-Tate sees its markets of the future as 16-bit, IBM-compatible users, and dBASE III, which will not run on 8-bit CP/M, as its primary focus. Therefore, expect fewer revisions and upgrade, less support, and reduced availability on compatible floppy formats. However, this reduced interest of the publisher may make it amenable to a one-time bargain rate for Morrow users as a group. They have been contacted, and are noncommittal.

Any version you buy now should be number 2.4* or higher. There is no Morrow format available now. If you have a floppy-disk system, you can buy a Xerox 820 single- or double-sided format and transfer it with either XEROX.COM or FOREIGN.COM on the CP/M master diskette. If you have a double-sided system with FOREIGN.COM, you can also copy the Televideo 8-bit

ACCOUNTING PACKAGES
for your Morrow
by Bill Roos

Accounting Partner, 4 modules for $400.00.
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20600 Grameray Place, Torrance, CA 90501

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Geared to medium sized businesses.
ADS SOFTWARE, (703) 344-6818
707 5th Street, NE, Roanoke, VA 24036

Champion Accounting, runs on dBASE II.
DATABASE RESEARCH CORP., (303) 987-2588
66 S. Van Gorden, Suite 155,
Lakewood, CO 80228

Versa Ledger II Series $100 per module.
H & E COMPUTRONICS, Inc., (914) 425-1535
50 N. Pascack Rd., Spring valley, NY 10977

[A review of the complete Versa Ledger II package (General Ledger, Payroll, Accounts Receivable, Accounts Payable, Inventory) by Bill Roos will appear in a future issue of MOR.]

MORROW SOFTWARE

MBACOUNT/$89.00: Small business double entry accounting. Up to 40 asset, 40 liabilities, 40 income, 80 expense & 20 capital accounts user assignable. Prints checks, P & L, balance sheet, chart of accounts, single account details, check ledger, etc. Generates a printable detail journal for audit trail.

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BBS'S FOR MORROWS

After a successful struggle to hook up his Anchor modem to an MD3 with two 15-megabyte hard disk drives, Cliff Henthorne is starting his own information exchange system for Morrow-oriented BBS's. Contact him with your questions and answers on printer and modem hookups to various Morrow machines, do-it-yourself hard disk add-on to MD2 and MD3, BBS software and installation, related suppliers, and so on. Cliff is very interested in making international connections as well.

He is also compiling a list of Morrow-oriented BBS's. MOR will publish this list in the February/March 1986 issue. To participate or to list your BBS, contact:

Cliff Henthorne, (405) 751-7883
P. O. Box 75841
Oklahoma City, OK 73147
(405) 751-7883 (5pm to midnight CST)
BBS (modem) number: (405) 752-9305

To get onto his BBS, call him first at his home number, and he'll program you for access.

Cliff says if you call with a question about modems or Morrow BBS's and he doesn't have the answer, he'll set out to find it. So, get in touch!

double-sided format. If you buy UNIFORM or MULTIFORM, you can copy from other CP/M formats. Existing users with UNIFORM or MULTIFORM say that Kaypro versions 2.4 and 2.41 work perfectly. Those who have hard-disk machines should buy only the version made for Kaypro hard-disk machines, as it has features not found on other versions.

Certain versions that have been made for Osborne are proprietary, and do not have a menu selection for installation of a Morrow-compatible terminal. You can use them, if you know how to read your terminal manual and patch in the correct hex numbers for terminal installation, which is part of the dBASE II installation program.

dBASE II can sound wonderful. After all, it brought high-tech relational databases to personal computer users, better than what the Pentagon was using at the time it was introduced. Its users are almost a cult, and there is a column on the program in almost every local computer journal. It is the starting point for many worthwhile add-ons. At the low end are the simplification systems, that do things like add a menu-driven system that make it easier to use for most people. At the top end, there are powerful, complex programs built on dBASE II, which allow it to run accounting, calendaring, billing and other systems for specific professions. But there is a price to pay.

dBASE II is not cheap. It has too many bugs that should have been remedied a long time ago. It takes a long, long, long time to become truly proficient. Either you pay a price for a menu system to make it easy or you pay lots of extra money for a consultant and programmer to set it up customized to your needs and write custom menus to make it easy. Or else, your life must change around the demands of the program, to learn its menus and general organization, its programming language, and its quirks.

Personally, I resent this. As a writer and lawyer, I knew I had to give a few weeks or months to a powerful word processing program. But 90 percent of what I want from a database is a calendar and address book only. I have tried dBASE II, but never quite get around to really learning it. I will, if I need it.

The publisher of dBASE II, Ashton-Tate, has done questionable things, like introducing new versions not compatible with the old, and pricing upgrades at $75. They also have done very stupid things, like introducing new versions that didn't work at all, and having to recall them.

There is no perfect database for everyone. There are only choices. Let's expand the number of choices. Tell Morrow, Inc. and MOR what you think. ■

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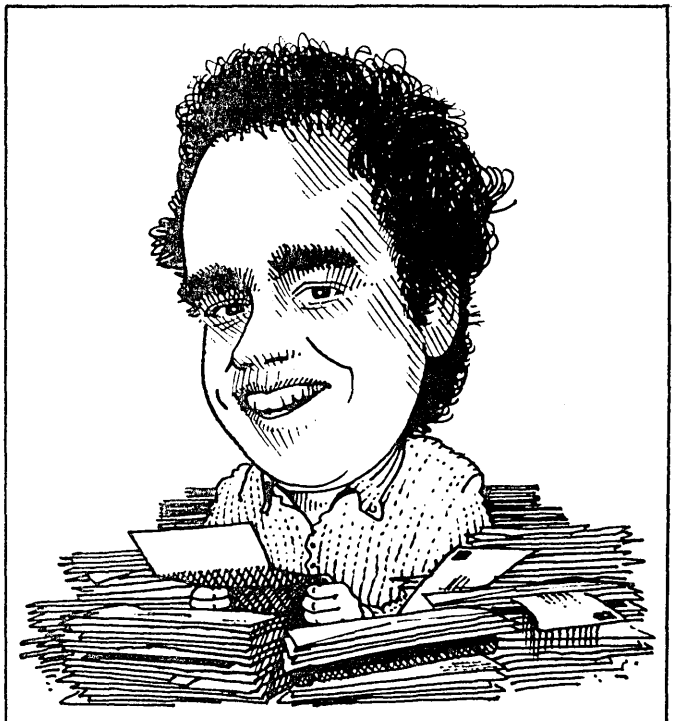


DAVID'S Q & A COLUMN

[Dave Block is Product Manager for Morrow, Inc. If you have technical problems or questions on application software, send them to him c/o MOR.]

Dear Readers,

The theme of this column is compatibility, and the lack thereof. Unfortunately, multiple standards are the downside of the free enterprise system. But wouldn't life be less interesting if everything worked together with too little effort?

Dear Dave,

The MD11 looks like my MD3 with a hard disk instead of the second floppy. How hard would it be to convert the MD3 to an MD11?

J. B., Thousand Oaks, California

Dear J. B.,

Real hard. The differences are much greater. The power supply and motherboard for the MD5/11/16 series are totally different from those in the MD2/3 series, so the only things you could salvage would be the cabinet and one floppy drive. Sorry. ##

Dear Dave,

I'm having a problem with MicroPro's InfoStar database programs on my MD5. In brief, I get "Directory Full" error messages on a nearly empty disk. What's going on?

J. C., Markham, Ontario

Dear J. C.,

You have encountered one of several problems that occasionally surface when running CP/M 2.2 software on a CP/M 3.0 system. Morrow provides a fix in the form of three files: CPM2.COM, CPM3.COM, and CPM2.RSX. You probably have them on your hard disk already. If not, ask your dealer. Some early units were shipped before we discovered the incompatibility.

These files are documented in Appendix C of the Hard Disk Micro Decision User's Guide. ##

Dear Dave,

I transmit large files across country frequently, and my phone bill is enormous! Can I use one of those new 2400 baud modems with my MD3?

S. O., Boise, Idaho

Dear S. O.,

Sure you can. Just set the Printer/Modem port to 2400 with the SETUP program. However, a few things to consider: Be sure that the software you want to use can work at 2400 baud. Many current programs only work at 300 and 1200. And of course, the receiving modem must also be 2400 baud, or you're wasting your money. Finally, not all 2400 baud modems are compatible with each other, so you may prefer to wait until the dust and prices settle. ##

Dear Dave,

I own a vintage Decision I that uses hard-sectored disks. Is there a way to make it compatible with the Micro Decision? Are there other computers that use this older format?

G. R., Rockford, Illinois

Dear G. R.,

Morrow offers an upgrade that allows your system to use Micro Decision (soft-sectored) diskettes, and run the programs. It consists of a diskette numbered E904 and some new ROMs for your DJ/DMA board. Most likely you already have a double-sided drive, so you could read MD-2 or MD-3 disks. With a rare single-sided unit, you can use MD-2's only, or simply change drives and read all MD disks.

North Star S-100 CP/M computers traditionally use the hard 10-sector format. ##

Dear Dave,

I've been considering the purchase of a Pivot II, but I'm concerned about making a smooth transition from my trusty Micro Decision. Any suggestions?

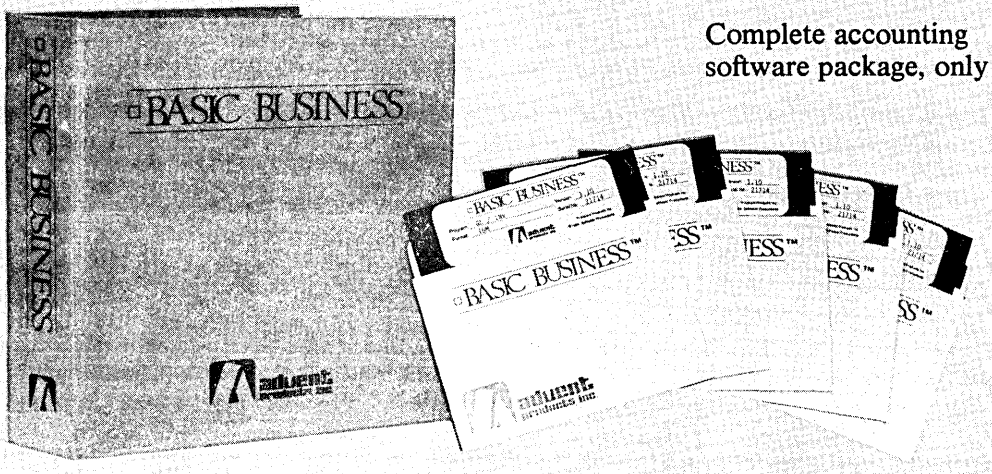
J. V., San Leandro, California

Dear J. V.,

First, you should know that the commands used by MS-DOS are very similar to those in CP/M. You will catch onto them quickly. And most of the software you're using is available in MS/PC-DOS versions, so you can keep using it, although you will likely have to spend a few bucks.

The transfer of your existing data to MS-DOS disks is easily accomplished with readily-available programs such as microVERSAL from Advanced Software Technologies. So go get that Pivot! ##

TIMELY REPORTS, ACCURATE RECORDS, RELIABLE INFORMATION.....



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Basic Business	**$89.95**
Point-of-Purchase module	**$99.95**
dBase II/III file formats	**$19.95**

Please add $2.50 for shipping.

Minimum Hardware Required for MS-DOS computers: Color or monochrome display, 256K memory, two DS/DD floppy disk drives (or 1 floppy disk drive and hard disk recommended for Sales and Purchase Order Processing), printer w/132 columns, MS-DOS (or PC-DOS) version 2.0 or later.

Minimum Hardware Required for CP/M-80 computers: 80 x 24 character display terminal, 64K memory, two 360K disk drives (hard disk recommended for Sales and Purchase Order Processing), printer w/132 columns, CP/M-80 version 2.0 or later.

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Autodiff $29.95

CP/M DateStamper: Automatically stamp your files with the date it is created, last read, or modified. Works without a Real Time Clock , with the clock in the newer Kaypros or with the Advent Clock/Calendar. Utilities are included to allow copying, erasing, or renaming files based on time and date. A time logging utility is included to record computer usage for business/tax purposes.
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Word Wiggle: Scrambled letter game for building vocabulary skills of young and old. Eleven skill levels containing 40,000 word dictionary. Fast paced, fun, and educational.
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Basic Office: Time & Billing program designed to automate the special needs of the professional office. Provides personal calendars, client timekeeping, account billing, receivables tracking, Trust & Deposits accounting, and flexable management reprots. Specific versions are available for Lawyers, Accountants & Professionals.
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Spell $49.95

Thesaurus: This powerful 90,000 word Thesaurus allows you to select the best word for the application. Works inside WordStar for greater ease of use. Instantly searches its dictionary, then displays synonyms, and automatically deletes the "wrong" word and replaces it with the "right" word. Requires 380K disk storage.
Word Finder $79.95

Wordpatch: Print files with tiny, compressed, wide, or wide compressed type faces, 5 sizes of italic, real superscripts and controls to learn. Supports most popular dot matrix printers. A must for WordStar users!
Wordpatch $49.95

The Word Plus: The ultimate spelling checker. Not only finds misspelled words but shows you correct spelling options, shows the word in context. Allows adding new words to the dictionary, and much more.
The Word Plus $150.00

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ACCRUAL BOOKKEEPING ON QUEST VERSION 1.2

by Paul Emery

If your business offers several lines of services or products, or operates in several different locations, you need to know which of each of these is successful, which is not, and why or why not. The QUEST (version 1.2) bookkeeping system can help you keep track of and assess this information, because it can produce comparative income statements for each product line or type of service offered, statements for different store locations, etc.

However, in order for the income statements to be accurate the books must be kept on an accrual basis rather then a cash basis. This requires the ability to handle "accounts payable"—an activity which QUEST 1.2 will not do. Instead of giving up on QUEST's business planning value, we need to cobble up an approach to accounts payable so we can accrue! The strategy is to use sub-accounts numbering and department numbering.

Set Up

Set up a series of separate General Ledger (G/L) sub-accounts for each vendor that you order from on a regular basis. For example, each account would be titled: #aaa.xx.yy where aaa is the base account number for all accounts payable, xx is the vendor's sub-account number, and yy is the accounts payable department number. Your vendor sub-accounts can run from 01 to 97. Then set up a miscellaneous Accounts Payable (A/P) sub-account, 98. (Sub-account 99 is used as the totaling account). These accounts will all be type s, short term liabilities. Our account payable base number is 210 and the department is 01. So, if Hardnose Collections, Inc. is assigned sub-account number 33, their General Ledger account would be: 210.33.01.

Now, set up your vendor file by entering the names, addresses, etc. of each vendor that you have ducked as long as you can. Include the sub-account number for each at the end of the "name" line. In the vendor file, our sample supplier will be entered as:

Hardnose Collections, Inc. (33)

The final part of set up is to decide which of the 1 to 9 special journals will be used for Accounts Payable entry.

Data Input

Amounts owed are entered as credits to the A/P account and debits to some other account, usually an expense account. This is done by making a double entry to the special journal using the General Ledger Posting Program from the QUEST menu. (If you receive a credit memo from a vendor, the debit/credit would be reversed.) Amounts paid out are entered as debits to the the A/P account and as credits to cash or checking accounts. This is done when you write a check using the Cash Disbursement Posting Program from the QUEST menu.

It is easy to find the proper sub-account number when writing a check, because you've set up your vendor file to include it. When you answer the prompt, "What vendor do you want?", the vendor name and sub-account number appear on the screen.

Finding the sub-account number for entering amounts owed is easy enough if you set up your initial G/L-A/P account series in alphabetical order. You can just look at your G/L listing of accounts. However, after some time, you may have deleted some vendors and added new ones, and you may not be able to keep the G/L list in order. Use the vendors list instead. QUEST re-alphabetizes this list whenever you make deletions or additions.

Data Output

You can get an A/P report by using the General Ledger Reporting program from the QUEST menu. Select a report just for the A/P department. (In our case, 01.) Select the DETAIL option to get all entries to each account for the accounting period. This should be run before each period closes and can be kept in a separate binder as your cumulative A/P records.

If you want only the totals for each account, you can run balance sheets for just the A/P department, using the Financial Reporting program of QUEST. There is a certain drawback to this scheme. Because each vendor does have a separate G/L account, any detailed balance sheet report becomes a little lengthy. ■

Former Fortran programmer **Paul Emery** is manager of the solar division of a middle-sized construction firm in Lansing, Michigan. He uses his Morrow to keep books with QUEST and make spreadsheets for estimates, and does file management with Personal Pearl on all jobs.

The author uses QUEST daily and is willing to share experiences with other QUEST users. You can write or call him at:

The Carpenters & Company
Solar-Tech Division
511 E. Saginaw
Lansing, MI 48906
(517) 482-2865

SOFTWARE REVIEW

PROGRAM:	**Free Filer**
VERSION TESTED:	4.00 (Beta-test version)
AUTHOR:	Alan W. Gomes
MANUFACTURER:	Telion Software P.O. Box 1464 La Mirada, CA 90637 (213) 547-9673
DISK SPACE:	FREE.COM 36K, FSRT.COM 22K, plus overlay files 94K total
PRICE:	$49.95

by William Steele

Personal Pearl is a powerful program, but sometimes annoyingly inflexible. My own pet peeve is that Pearl isn't handy for quick queries. In the edit mode, you can search on one field, provided that field has been indexed. But the more fields you index, the more it slows down data entry, and if you make no entry in an indexed field, Pearl beeps at you!

If you share my frustrations, Free Filer may be just the program for you. Telion software describes Free Filer (from now on I'll just call it "FF") as an "information retrieval" system, rather than a database management system, and that's essentially correct. What it does is search any text file for any strings you specify. You can create a database using your word processor; there's no requirement that records be formatted in any particular way or be of any consistent length. Information goes in as fast as you can type; no waiting for sorting or indexing, and no beeping. To answer the obvious question, yes, you can search existing files, with certain limitations. But no, you can't search an existing Pearl file with Free Filer, unless you report it out to a text file. (Pearl data files are compressed and don't read like normal text files.)

The program is compatible with NewWord and WordStar document files. In technical terms, that means it isn't confused by their eight-bit format, and it passes all eight bits along to its output file. Since records can be of any length, the file must contain "delimiters" to tell FF where one record ends and the next begins. These can be symbols that wouldn't ordinarily be found in text, such as @, # or >. Or double carriage returns can serve as delimiters, so any text file with blank lines between paragraphs is searchable.

You can enter up to ten keys for any search. A key can be any string of two or more characters, including a partial string; searching for "Cli" will return Clint, Cliff, Clive, etc. With FF, you can specify an AND, OR or NOT search. Say you're a movie buff (like me). You could search a movie database for for every entry that contains Clint Eastwood AND Sergio Leone AND Lee Van Cleef. Or search for every entry that contains Clint Eastwood OR Lee Van Cleef. Or find all the films that do NOT feature those actors. You can't combine these types of searches; the only way to find all the Clint Eastwood films not directed by Sergio Leone would be to do a search for Clint, then search the resulting file for NOT Sergio. (Telion is promising a new, more elaborate database program soon that will do compound searches and have some reporting capabilities.)

Any entry that contains the search string(s) is retrievable—the whole paragraph or whatever, just as it was typed in. You can look at each entry on the screen as it turns up and decide whether or not to save it to a file, or you can just have FF write everything to a file automatically, which is a lot faster. It can also send the results to the printer.

The program is menu driven, or you can bypass the menus by entering the whole search plan on the command line. Searching is fast. I searched a 106K file, already arranged in alphabetical order, for a keyword beginning with "S" and got my answer in 45 seconds. The same search with NewWord's search function took one minute and ten seconds.

FF comes with a separate sorting program, FSORT, which you can use on any file, whether you do a search or not. It will sort on one field up to 20 characters long, which again must be marked with some sort of delimiters. You can use the beginning delimiter as your sort marker, in which case the sort will be on the first 20 characters appearing after that marker. You can, of course, put more than one set of delimiters in a file.

For instance, you could make up a mailing list with entries like this:

```
>John P. \Jones\ 123 Fourth St.
Anywhere, ^PA^ #15560#<
```

By telling FSORT to sort on \ you'd get a list alphabetized by last names. By sorting on # or ^ you'd get lists sorted by zip codes or states. FSORT will strip out the record delimiters and the sort markers you use, if you want it to; you have to use your word processor's search and replace to clean out other unwanted characters.

Bill Steele is one of a growing breed of folk-musician/computer afficionados. He works in Ithaca, New York as a freelance writer, specializing in science, medicine and technology. (Box 782, Ithaca, NY 14851, 607-273-2132.)

UPCOMING THEMES

Many people have written to say how much they like having theme-oriented issues. So we'll continue to do more of the same. We hope these upcoming themes inspire you to contribute articles and reviews. Of course, material of general interest is also always welcome.

DEC/JAN 86 **Creative Uses**
Games, music, modifications for handicapped, international communications, your unique and creative uses, etc. This issue is nearly full, so call immediately if you want to contribute an article.

FEB/MAR 86 **Public Domain Software**
We have a central article on The Top 10 PD Programs according to Tim Evans, but we need in-depth reviews on your favorites as well. PD utilities, databases, games, writers' tools, etc. Submit your brief proposal before November 1, 1985. Tax program reviews?

APR/MAY 86 **Educational Software**
Good educational software for CP/M machines seems hard to come by. Do you know of any worthy of a review? Do you use computers specifically for education in schools or at home. If you write educational software--for anyone from toddlers on up--write an article about it.

JUN/JUL 86 **Repair and Maintenance**
Where to go for repairs, especially if your dealer gives out. Where to get spare parts. How to do simple repairs and maintenance yourself.

ALL WRITERS NOTE: If you are interested in writing for any of these issues, please submit a proposal of one to two paragraphs, indicating how you will approach your topic and your related experience.

If you are reviewing software, indicate the need or concept addressed by the program and how well it meets that objective in your estimation. If you do not yet have the program, give us some background on your interest in it and intended approach. If available, please include a sample of your (published or unpublished) writing. Please follow the **Writers' Guidelines** on page 2. Direct your correspondence Attn: Managing Editor.

EVERYONE is most welcome to contribute programs to the Floppy of the Bi-Month for all these issues. One cannot live by the printed word alone! Send Attn: Editor.

Another really nice feature is that FF will search all the files on a disk, or any selected group of files. This means you could have several different mailing lists and search all of them, producing a single list which you could then sort. By including other symbols or keywords in your lists, you could pull out names by categories. In fact, FF seems ideal for people who like to keep lists of things. The strategy is to keep a master file, with delimiters in it, to which new entries may be added in random order, then use FSORT to print out a sorted list when you need it. (Notwithstanding the romance of using a computer, sometimes the best way to use a database is to print it out; it's hard to match the retrieval speed of the human eye scanning an alphabetized list.)

The examples in FF's slightly whimsical manual suggest that it was designed with writers and academic researchers in mind. A talk with its author, Alan Gomes, confirms this: he's working on a doctorate in historical theology. Both he and his partner in Telion Software, Roy Pueschel, are extraordinarily accomodating, probably too much so for their own good, considering the low prices of their products. When I told them that FF crashes when SmartKey is in use, they recompiled it for me to run lower in memory. In general, they say, they are happy to customize their programs to user's specifications.

As a writer, I've already found many uses for Free Filer. Pearl, with its versatile reporting capabilities, will still be the choice for business applications, but if you just want to store and retrieve words, you could put them in and take them out a lot faster with Free Filer. ■

[CITATION, another text-oriented, free-form hierarchical database program, will be reviewed in a future issue. —Ed.]

MUG LISTING

In the December/January 1986 issue of MOR, we plan to print an updated listing of all known Morrow Users Groups (MUG's). If you are a MUG official, or if you know of a new MUG, please send MOR the following information:

—Name of the MUG
—Address with zipcode
—Phone number
—Name of contact person.

We ask that all MUG's write to us—even if you were listed in the December 1984 issue—to make sure the list will have freshly updated information. Deadline for reception of your MUG information is October 25, 1985. Mail to MOR, Box 5487, Berkeley, CA 94705. Be sure to note in the lower left hand corner of your envelope the secret code: MUGLIST.

TO CALL FOR HELP

For any kind of help with your MD2, MD3, MD11 and its bundled software call 1-800-HELP-OUT or 1-800-435-7688, where a staff of experts stands ready to answer your every question. They charge you by the solution rather than the minute. But an assessment like: "Sorry, but your machine is not capable of that" is also deemed a solution. A 10-solution subscription costs $89.00. MOR invites readers to report on experience with this company. TechniCall Support Helpline, 75 Hancock Street, Braintree, MA 02184.

Need help with QUEST? Open Systems of Minneapolis has bought the rights to the QUEST bookkeeping system. User support can now be had from Commercial Software Associates for $1.25 per minute. (CSA, 30 Professional Center Pkwy., San Rafael, CA 94903; 415-479-7644)

If you need to find a Morrow dealer or service center near you, Morrow has some numbers for you to call. In California, (415) 568-8599. From all other locations, call (800) 521-3493.

MOR COUNCIL CHANGES

The members of the MOR Editorial Council not only review potential articles for each issue but also offer tremendous moral support and invaluable ideas. The work of our Council has done much to steadily improve MOR's quality.

Two of our original Councilors have now resigned to attend to other pursuits. Stan Ahalt, completing his doctorate, will return to MOR one day as Professor Ahalt. And Stan Young has now become a 16-bit devotee! Thank you both, Stan Young and Stan Ahalt, for your excellent efforts.

Two new Councilors have joined us. A warm welcome to technical writer Lenore Weiss and writer and journalist Marilyn Umehara. Lenore was a former editor of the BAMDUA newsletter and was, in fact, a contributor to the first issue of MOR. You early readers will recall her article, "Why Not Alice In Through the CPU?" Starting with last issue, Marilyn Umehara has already been a steady contributor! We're glad to have you two on board.

TURBOLINK 1200™ Modem

Read the Review in this Issue of MOR

Look at these Features:
- 300/1200 Baud operation
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Our price includes The MicroLink II. Retail price, $99. **Rated Excellent, Good, Excellent, Good by** InfoWorld, Sept. 4, 1983. Plus a custom serial cable (shielded of course) usually costing $40.00.

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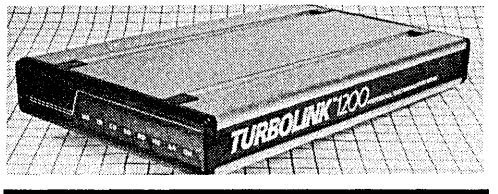

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Special Price $279.95
To MOR Readers Includes cable and software for any type Morrow. Modem alone. $249.95.

Read the Review!

Sypko Andreae, Editor of the Morrow Owners Review, says: "The first thing I noticed was that this modem looks just like a Hayes Smartmodem 1200. Everything works fine.... (The Micro Link II Software) is a delight to use. The Turbolink 1200 Modem with Microlink II software seems a fine deal to me." MOR Aug/Sept. 1985

Send for our catalog. Over 100 great programs for your computer. **We support CP/M-80!** Dealer inquiries invited. Call us, we are the source.

TURBOLINK 1200 is ™ of Worthington Babcock, Inc. Hayes is ™ of Hayes, Inc.

AFFORDABLE COMPUTING (ALMOST)

by Jesse F. Adams

One of the first things you may have discovered as a computer owner is that, like all of life's acquisitions, the initial cost can seem trivial compared to the upkeep. You need disks and backup disks, expensive ribbons, special paper . . . and then, of course, there's always the "necessary" software. Well, I've found a few ways to keep the costs of all of this down. Some of you will undoubtedly know of other ways, but here's a start.

Hardware I won't say much about. Shop the discount house ads in the magazines, but be aware that in buying through the mail instead of at the round-the-corner store, if the machine breaks you'll very likely own all the pieces. It's strictly caveat emptor on bargain hardware. On the other hand, sometimes the list-price, round-the-corner store, or the still-in-business factory, doesn't accept much responsibility after the sale either.

Disks? Yes, at anywhere up to an outrageous retail of $5 a disk, we need some better way. You'll see many ads for bargain priced, name-brand disks. My own orders have been to Disk World!. (Suite 4806, 30 East Huron Street, Chicago, IL 60611, 800-621-6827) In quantities of 50 or more, I've paid as little as $1.49 per disk for 3M single-sided/double-density (SS/DD), and as little as 99 cents for Super Star double-sided/double-density (DS/DD). I can see little difference, except that some Super Star disks whisper in the drive while 3M's are very quiet. I've found no defects in the Super Star disks, but one 3M had a bad sector. I used the public domain utility, FINDBAD, to lock that one out. [FINDBAD locates the bad sectors on a disk and occupies them so no other files can use them. It does this by collecting all the disk's bad sectors into a single file, UNUSED.BAD. Don't erase it! —Ed.]

To date, except for the Super Star disks, I've not bought any "white label" stuff. Maybe I'm unduly cautious. My Morrow dealer got pale around the mouth when I told him what I was paying for 3M's. Said his wholesale price was higher than that.

I'm also using 3M single siders in double side drives, so far with no problem. The single sided stuff is made just like double sided, it's said. They all are tested, and the best of the lot are declared DS/DD. The remainder are SS/DD. FINDBAD should identify any lemons among your fruit.

While we're talking disks, you can save about a third on text disk space by using the squeeze-unsqueeze functions of NSweep or SQ-UNSQ, another couple of public domain programs. What formerly required seven disks in original WordStar text ends up occupying a bit less than five in the squeezed files. (Yup, the unpublished Great American Novel.) Of course you have to un-squeeze to read or print it. On non-text files, you won't save much, if anything.

I guess I must have spent nearly the price of my Morrow for ribbons before I got slightly smarter. What Barry Bruch says in the June MOR (Vol. 2, #3) about fabric vs. multistrike ribbons is undoubtedly true—however, I got the Mac Inker and am using it quite successfully with fabric ribbons. I don't mind using the daisywheel cleaner now and again and, for my purposes, the slightly variable shade of black (because my re-inking is imprecise) is okay for everyday and one hell of a lot cheaper. (Mac Inker from Computer Friends, 6415 SW Canyon Court, Suite #10, Portland, OR 97221, 800-547-3303. About $60, depending on your variety of printer.) Save your multistrike for Sunday-best.

Paper? Go to your nearest large downtown office supply warehouse store, pay cash and carry it home yourself. I use Arvey's in Seattle. 3,000 sheets of 20-lb., fanfold, microperf (the kind that doesn't leave a rough edge when cut) cost me in the order of $25 on sale. 15-lb. paper will be less expensive, and the garden-variety, rough-edge stuff is even less. Look into a couple dozen razor-point, felt-tipped pens to write on your diskette labels while you're there.

Disk storage: Anyone who pays twenty bucks or more for a Flip-n-File is either new at the game or doesn't care about getting kissed before being had. Disk World gets $11.95 plus shipping for a 70-disk storage box that does the same thing. Their offer of an Amaray Media-Mate for $8.75 with free shipping with purchase of 50 Super Star's is reasonable. Other places offer similar deals, so you know nobody's losing money, just not ripping you off so bad.

The little, plastic boxes that look like books and hold 10 or so disks are mighty convenient. Check-Mate (P.O. Box 103, Randolph, MA 02368) will sell you five for $15.95 and ship from some part of the country near you in a couple of days with no shipping charge for prepaid orders. They'll also reward you with catalogs in the mail. Other items in their catalogs aren't such bargains. Check-Mate did call me one time to explain that the reason my order was taking so long (about a week) was they couldn't find out where Olga, Washington was and couldn't convince UPS to send anything to a box

---

Retired Navy surgeon **Jesse Adams** uses his MD2 for writing. His articles are mostly instructional pieces on flying. One of his four unpublished novels is, according to the author, "125,000 words composed entirely on the MD2 with more fun than skill either in writing or computing."

number. We got that straightened out. UPS knows me well.

Now, the high-ticket items: software. First, look into public domain stuff. There's an awful lot of CP/M public domain software out there. You'll meet it coming at you from all directions—on bulletin boards and through users groups and for sale. There are some tremendous programs and a moderate amount of useless stuff, some of it with bugs. I suspect some of it gets changed slightly, renamed, and then marketed in a small way as new and different.

Micro Cornucopia advertises public domain disks in MOR and so does PeopleTalk. Both of them offer about the same programs. Take your choice or get it from your local users group, but get what you can of it. Utilities like FINDBAD, NEWSWEEP, UNERASE, MCAT, DU-V86 and some more are, to my mind, essential. ZCPR is a big improvement for your CCP. [See Footnote.]

I can recommend a couple of commercial software products which aren't that expensive.

The Nevada (CP/M) and Utah (MS/DOS) series of PILOT, BASIC and others from Ellis Computing, Inc. are well worth the price of $29.95 each, plus $4.00 shipping. (3917 Noriega Street, San Francisco, CA 94122) In my experience, their PILOT is head and shoulders above Morrow's and service is very prompt.

The Writing Tools disk advertised for $12 from RC Throckmorton (7144 Predial Way, Sacramento, CA 95842) is a good way to expand your Correct-It. (See p. 8, February 1985 MOR, Vol 2, #1.) It sets up Correct-It so it can be called from the NO-FILE MENU of WordStar with the S command, originally designed to call up SpellStar, the program that never made it into your bundled software.

I have a game called VALDEZ from Computronics, (50 N. Pascack Rd., Spring Valley, N.Y. 10977, @ $23.95, plus $3 for Morrow format, plus $3 for shipping) which allows you to play at maneuvering a supertanker in Prince William Sound—sort of like Flight Simulator afloat, but simpler. My boating friends love to play it. (I always run aground or collide with another tanker or an iceberg.) It's in unprotected MBASIC so you can modify the program if you like.

[**Footnote:** NSWEEP is discussed in the August issue of MOR, Volume 2, # 4, p. 54. UNERASE is a program that will un-delete your accidentally deleted files on a disk. You have to remember the file name, otherwise how would UNERASE know. MCAT is a disk-cataloging system. DU-V86 is a disk inspect-and-modify utility, operating on the byte level of your files. Many of these programs are on the October 1985 Floppy of the Bi-Month. See page 48.

ZCPR is a modification to CP/M that considerably enhances its functional power and convenience to the user. It's a "souped-up" CP/M. CCP (Console Command Processor) is a part of CP/M that, among other things, deals with keyboard communication. —Ed.]

So there. Computing isn't inexpensive; no one said it was. For a lot of us, it isn't even honestly very useful. Still, it's a challenge and fun and having gotten into it, we're sure not going to give it up. Here and there, it can be made a little less expensive than list price. ◘

ELIMINATE SORT DISK SWAP WHEN USING PEARL

by Jim Ross

If you own an MD2 and use Personal Pearl, you have no doubt become annoyed at having to swap the PRLSORT disk in and out of drive A every time you want to produce a report that has been designed with a sort routine. The reason this situation exists is simply that the PEARL distribution disks assume that the user has only two drives. Fair enough. But:

If you have at least one add-on disk drive, the situation can be adjusted. This is what worked for me:

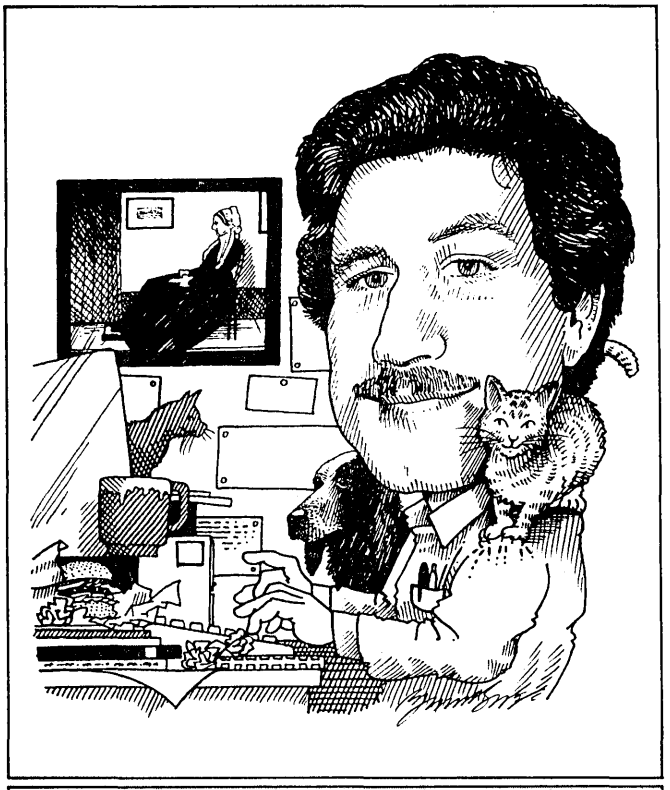
1. Make a backup disk of WELCOME. In fact, it's a good idea also to make backups of all disks being altered (DF, ED, DR, FM) in order to avoid having to start over at the Masters in case something goes wrong.
2. Edit INSTALL.DAT (on the WELCOME disk), using the non-document mode of WordStar, NewWord, ED.COM, etc., to read: BBBACAAC. (The distribution settings are BBBAAAAA.) See Appendix C of the Morrow Pearl reference manual.
3. Re-install (personalize) your DF, ED, DR & FM disks using the WELCOME disk.
4. Copy PRLHELP.TXT from the PEARLPR disk to the PRLSORT disk.
5. Erase PRLHELP.TXT from the PEARLPR disk, giving you the space required to do the following:
6. Copy PSORT.COM and PSORT.LIB from the PRLSORT disk to the PR disk, leaving them on the SORT disk.
7. Re-install all forms and reports.

Now all "action" disks (i.e., DF, DR, ED, FM, PR) will look to drive C for help, including menus. PRODUCE REPORTS will look for and find the SORT information there too and will proceed without asking for a swap.

I'm not sure why the SORT files have to be on both the SORT disk and the PR disk. There may be room here for refining and housekeeping. But, as is, there is space for all of it, and it works.

NOTE: There are contradictions between Appendices C & D of the Morrow Pearl reference manual. For this exercise, Appendix C turned out to be the better guide.

Computerese even a mother would love



INSIGHT

by Art Zemon

BILL PAYING REVISITED

In the April and June issues of MOR, I presented a rudimentary home bill paying system based on Personal Pearl and MicroSoft Basic. This was intended to demonstrate a practical use of the software bundled with your Micro Decision and was not designed to be a full scale home accounting program. Despite the stated design goals, two software publishers offered me evaluation copies of "real" home accounting programs.

The programs were sent to me on the premise that they are much better than my home grown bill paying system. I would like to start by acknowledging that, in one sense, the authors are absolutely right; both of these programs are undeniably better due to features and record keeping. Both programs cost money, however, and a purchase price can go a long way toward reducing the desirablility of a program. Whether the net value is enough to make you want to buy a program is, of course, something which you have to decide for yourself. When you do make such decisions, remember that there are often no-cost or low-cost alternatives to commercially available software. So, without further ado, here are my thoughts on the programs which I received for evaluation:

The Programs

Quick Check Plus (QC+)
Chuck Atkinson Programs
Route 5, Box 277-C
Benbrook, TX 76126
(817)249-0166
$100.00 ($95.00 + $5.00 p&h)

Checks & Balances (C&B)
CDE Software
948 Tularosa Drive
Los Angeles, CA 90026
(213)661-2031
$77.95 ($74.95 + $3.00 p&h)

Both programs are available for CP/M (Micro Decisions) and for MS-DOS (Pivot). Both companies will answer technical questions over th phone, although neither provides a toll-free phone number nor will either accept collect calls. Chuck Atkinson Programs charges $1.00 per minute for phone support ($5.00 minimum); CDE Software does not charge.

QC+ can actually be ordered in three different configurations. The accounting package alone costs $49.00; the accounting package with accounts payable (as evaluated here) costs $95.00; the accounting package with both accounts payable and accounts receivable costs $195.00. This information is from a telephone inquiry on September 6. The ad for QC+ that sometimes runs in MOR does not include this information. Note that without the accounts payable module, QC+ is only a record keeping program and not a bill paying system. C&B is an accounting program with accounts payable.

Side-by-Side Comparison

Neither program provides a "double-entry" bookkeeping system. Consequently, neither program will produce reports which will satisfy many business tax requirements. On the other hand, if you have ever tried to use a double-entry bookkeeping system (e.g., QUEST), this may be construed as a blessing rather than a curse.

Both programs perform "single-entry" bookkeeping and produce reports which would be perfectly adequate for personal use or for presentation to an accountant as an aid for preparing a small business tax return. The reports will certainly help you see where your money is going. They may even help you convince a tax auditor that you really do know what you are doing when you file your tax return. (No promises either from me or from the software publishers on the last, of course.)

To use either program well will require more of your time than paying your bills by hand. The reason is simply that you will be entering more information into the computer than you would normally be remembering. This information may be useful to you either at tax time or as an aid to preparing your budget. If you do not care to know exactly how your money is being

spent, then you will probably find the extra time spent entering data into these programs to be more of a bother than a help.

Checks & Balances

C&B arrived in a slick package. The box contained three diskettes (startup program, main program overlays and sample data), a User's Guide, an Addendum for CP/M, a quick reference card, two advertising blurbs, and a blank software problem report form. The manuals are small, 48 pages (no index) for the User's Manual and only 11 pages for the CP/M Addendum, printed on 5 1/2 x 8 1/2 inch pages, and in one of the worst looking type fonts I have ever seen. The quick reference card, on the other hand, is high-gloss cardboard and contains well laid out, useful information.

The manual, although brief, is clearly written and seems to contain just the right information exactly when you need it. It suggests a complete reading before you run the program. This is probably a good idea, not so much to learn everything but to learn what to expect of the program. Once you have a general idea of what the C&B does, you will almost never need the manual again.

The basic philosophy which runs throughout C&B is that your records should look similar to a checkbook register and should be as easy to manipulate as one. Consequently, the C&B displays your checks and deposits to look just as you would write them in your checkbook register. Checks have a check number. Deposits have the word DEP where the check number is written for checks. Bills are displayed in exactly the same manner with the single exception that instead of a check number C&B displays BILL.

The real innovation in C&B is in the input method. Basically, anything you can see on the screen can be changed simply by placing the cursor on it and retyping. This also applies to entering new data since there is always a blank checkbook register entry waiting to be filled in. For example, if you have a bill which you want to pay, you would display the bill on the screen by typing "show bills". Then you would position the cursor on the word BILL and type PRINT. The tag PRINT will cause a check to be generated when you tell C&B to print checks (by typing "checks").

C&B works very well and is a pleasure to use. The manual, although terse and lacking an index, is almost completely unnecessary. C&B was very easy to learn due largely to its intuitive user interface. This same user interface remained a pleasure to use even after I had become familiar with the program. I can strongly recommend C&B to persons looking for a home accounting software package.

Quick Check Plus

When I opened the QC+ box, I found five pages of reviews and advertisements, an 8 1/2 x 11 inch soft-bound manual (132 pages) and a letter which stated, in part:

> The accounting package has been proven to be the easiest to use package yet. With many installations throughout the World [sic], users are confused by the over used term 'user-freindly'. [sic]

I was suspicious when I read the first sentence. Questions like, "Proven by whom?" spring to mind and are, of course, unanswered in the manual. My opinion of the letter writer fell markedly after reading the next attempt at a sentence. Unfortunately, after working with the QC+ for a couple of months, my impression of the entire program is that it was written by a person with the same flair for good ideas but a similar lack of attention to detail as the of that letter.

The manual begins with ten pages of self-praise, advertisements, and unsolicited letters. Such is the tone for the rest of the manual. Little bits of self-praise keep popping up everywhere, as though to reassure you that you really did get your money's worth. It would be better if the praise were removed and some hard information added. It would also be nice if some of the errors were repaired. For instance, in the installation section for Morrow computers, the manual says, "MD-3, See Kaypro 4." The section on the Kaypro 4 begins with, "Put the CP/M disk in A and the Quick Check disk in B. Type COPY and press RETURN."

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Sometime around the end of October a large mailing will be sent out to all names on the Morrow, Inc. Warranty List, soliciting new subscribers. Of course, some of you are on that list and will receive that invitation. Please disregard it or pass it on. (Since we have no access to the Morrow database, it turns out to be too expensive to delete names from that set of labels.)

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That is all well and good and explicit and wrong since there is no COPY command available on a Micro Decision!

On the plus side, QC+ is well designed to let you do many operations with a single keystroke. Once you get QC+ installed (follow the directions in the section for "All Other CP/M Machines") you really can use this program without reading the manual. At first you will spend a bunch of time poking around through the menus to find what you want. Fairly soon, however, you will be able to move directly to your desired function. Unfortunately, more advanced features such as bill paying require reading the manual. When you try to do that you are quickly disappointed by its poor organization and overabundance of "hype."

QC+ is structured in a more standard manner than C&B. There are menu functions for entering things with separate menus for checks, deposits, bills, etc. There are more menus for displaying things—one for checks, one for deposits, and again, etc.

There were a couple of features which I wanted but were lacking in QC+. Most important, you cannot schedule a bill to be paid on a certain date. For instance, with my Personal Pearl bill paying system, you can enter all of your car payments for the year, each with a separate payment date. You can do a similar thing with C&B. QC+ does not have any concept of payment date. Every time you want to write checks, QC+ will try to write a check for every car payment in the data base. To avoid this you must make QC+ pause before every check and verify whether or not it should be printed.

QC+ is completely menu driven. This was a great help initially since the user interface is fairly complex. After I had learned the system the menus simply got in the way and there was no way to avoid them. This program is structured to be of more use to a small business than to an individual. I would recommend it over C&B to a small business with relatively standard accounting needs (accounts payable and receivable with reports at the end of every period and year). I would not recommend QC+ to a family which is interested in tracking its budget and expenses. Furthermore, small businesses considering QC+ would be well advised to also evaluate QUEST (bundled with the MD3 and MD11).

The Bottom Line

Quick Check Plus is an average program. It will pay your bills, write your checks, and track your expenses. The manual is okay at best. The reports are oriented toward small businesses, and the program is probably best suited for such an environment.

Checks & Balances is a very good program. It performs all of the functions of the $100 version of QC+ at a lower cost ($78). The manual is very good but largely unnecessary due to the program's excellent user interface. C&B is probably best suited for home use.

BOOK REVIEW

TITLE:	**How to Make Money with Your Micro** 324 pp. (1984)
AUTHOR:	Herman Holtz
PUBLISHER:	John Wiley & Sons 605 - 3rd Avenue New York, NY 10158
PRICE:	$14.95

by Marilyn Umehara

A young woman, impeccably dressed in a silk blouse and suit skirt, is sitting at home in her designer kitchen. One hand holds a pen poised over a slim notebook while her other hand rests lightly upon the computer keyboard before her, and—oh, joy!—hundreds of dollars in paper bills are flowing up and out of the top of her monitor in an unending stream.

This cover illustration for Herman Holtz's latest book, How to Make Money with Your Micro, encapsulates the current genre of "how-to" computer literature.

Those of us who purchased our Morrows and printers and modems as a vague business investment, and are now longing for some specific cash returns, are ripe for any advice which will put us on the path to profits.

But more than the potential for making money prompted our purchases. We were not just buying machines but an entire mystique which promised us Power (former roomsful of circuits now compressed into microchips), Independence (work at home) and Safe Passage Into the murky technology of The Future (be part of the Computer Age.)

The fact that most micro computer sales have slumped badly in the past year, and that, by some estimates, forty percent of all personal computers which have been purchased are seldom used, indicates that our great expectations may have been mere wishful thinking.

I have before me a dozen computer "how-to" books randomly chosen from my public library, as well as at least one mail offer which reads, "Would $5,000 a month come in handy? . . . it's yours in exchange for a few hours of your spare (computer) time"! So eager is everyone to define exactly what will make money for the personal computer owner that some current suggestions reek of snake oil, promising spectacular earnings with little effort.

Holtz makes no such exaggerated promises, filling 314 pages with hundreds of suggestions. His is one of the more comprehensive books on the market. But after plodding through it all, what has one really learned?

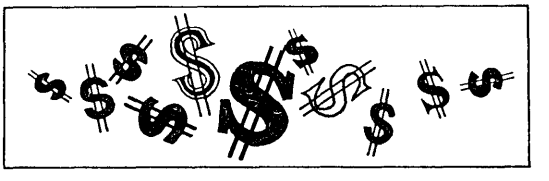
Holtz urges finding a "true need" and satisfying it. He mentions briefly the Washington housewife who publishes a weekly shoppers' guide listing price specials for area supermarkets, the California woman who developed a guidebook for the Mendocino coast area and a Maryland man who publishes a weekly free listing of items for sale in exchange for 10% of the price of items actually sold.

He explores in depth such general and presumably surefire moneymaking categories as wordprocessing, bookkeeping, teaching computer skills, training seminars, "pen pal" services, newsletter publication and general data processing.

Are his suggestions applicable to a Morrow user? Take teaching computer skills at home, for one.

Last year my son, a longtime hacker, decided to supplement his summer income by teaching Basic, Fortran or Word Processing on my new Morrow MD3. He ran ads in our Westchester County newspaper chain and received some responses from people interested in learning Word Processing—but only on a Wang or an IBM Displaywriter. Just one young man actually signed up for a course.

Because every college in our New York area offers computer language courses, and because many local word processor dealers offer "free" lessons to potential buyers, we now know that the market for home instruction on a Morrow is almost nil. People want to learn on a "name" brand, not a maverick machine.



Holtz also suggests renting a hotel room and running a seminar on, say, the evolution of computers, at $200 a head (coffee included), or failing that, drawing five or ten people into your "recreation room" at home for whatever the traffic will bear. Undoubtedly Holtz—with numerous published books under his belt—can pull in a paying audience, but will people pay to listen to you?

On to word processing, a fancy term for one of our oldest professions—typing. Holtz says, correctly, that a living can be made by charging .85 to $1.50 per

---

Marilyn Umehara, a freelance writer and professional journalist, has worked in Japan and New York in advertising and publications. She currently uses her Morrow to put out a consumer advocacy newsletter in Westchester County, New York, and has recently joined the MOR Editorial Council.

double-spaced page and by making oneself available for rush typing jobs needed overnight or on weekends by panicked businessmen or students. Personally, I find typing to be grueling, boring "Women's Work" which spawns feminists. For this I invested in a computer?

Another of Holtz's suggestions is to subscribe to various database services so that you can research and sell to people who do not have computers the answers to such questions as "How many supermarkets accept credit cards?" or "What percentage of people read books after college?"

Most of these database services have start-up charges; some have on-line charges which can run as high as $300 per hour for some very specialized databases during certain access hours (but on-line charges generally are much more modest), perhaps minimum monthly charges, and possibly other fees such as a charge for printing records off-line. The same data can be available from more than one utility at greatly varying per hour charges. Holtz does not get into these expenses, but it should be obvious that an individual who offers carte blanche research services is going to have to put out big bucks on the follow-through and will have to master a labyrinth of information about his sources . . . or else specialize in selling data only on blue-eyed pink pigs.

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I agree with Holtz totally when he discusses working for a company from your home and cites the many problems to be overcome before this can become a common practice—insurance, federal regulations, labor unions and corporate resistance to untraditional work practices. Last spring I got all fired up over an article in a special High Tech New York Times supplement which quoted the president of one telecommuting consultant firm in New York as saying, "It's old-fashioned to think that you have to 'go to work' anymore. With computers, information-based jobs can be done from anywhere. . . ."

Well, don't hold your breath. I wrote to this company president to see what opportunities were available to me and my Morrow—seeing no such Help Wanted ads in area newspapers—and was told that "we have no list of specific employment openings at the present time." It was suggested that I contact businesses in my area for a job and that I take out a year's subscription to the company's newsletter at $145.00.

Newsletters, incidentally, are one of Holtz's strong suits. He gives some good general information on this subject, which is an ideal use for a Morrow, in my estimation. As Holtz points out, there are an estimated 30,000 newsletters published annually in the U.S., and in this age of increasing specialization, newsletters are widely read.

The only really intriguing money-maker described by Holtz is his suggestion to bid on federal government jobs. As he points out, the U.S. government consists of 75 departments, agencies and bureaus which routinely put out bids for services such as research studies, the writing of training, technical or performance manuals, or the maintenance of mailing lists. Individual jobs paying up to $10,000 are considered "small purchases" by our government. For more information, he refers us to his hardcover book The $100 Billion Market, which I plan to read greedily.

I wish Holtz had been more specific concerning money, as in: how much startup money is needed for the various types of ventures he describes, what are estimated operating expenses and what kinds of profits can be anticipated?

The bottom line in earning cash with your Morrow is that it cannot endow you with talent, courage, imagination or the capacity for hard work. It is only an instrument which, like any other, requires long hours of practice by you in order to be performed beautifully. But if you are willing to make this effort, your Morrow will give you all the support of a small office staff and help you to achieve the full potential of your own talents. Learn from books such as this, and then let your entrepreneurial instincts take flight! ◘

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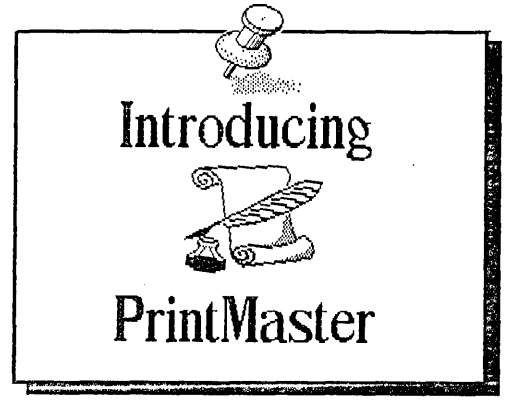

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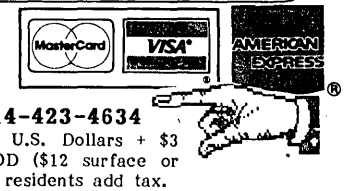

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- PC, 10/84

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-DBASCMD.DOC	Documentation for the following .CMD files
CUSLIST .CMD	Generates a fresh customer list in seconds
CUSTOMER.CMD	Menus and commands for adding and editing customer data
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DU-V86 .DOC	Inspect and change bytes in files on disk
DU86 .COM	Documentation for the above
FBAD57 .COM	Find bad sectors/tracks on disk + occupy
FBAD57 .DOC	Documentation for the above
INVEN .CMD	Takes inventory from records in Orders database
INVMEMO .CMD	Assigns memory variable to data for printing invoices
INVOICES.CMD	Gathers preliminary data for printing above invoices
INVPRINT.CMD	Generates printed invoices
MAINMENU.CMD	Primary menu system, calls all CMD files
MENU .CMD	Menu which controls INVEN.CMD processing
NULU .HLP	NULU help file - see NULU11.DOC
NULU11 .COM	Library program to create library files
NULU11 .DOC	Documentation for all NULU files
NULUTERM.ASM	An overlay file you probably don't need
ORDERS .CMD	Enters sales data in Orders database
PCEXPORT.COM	ASCII coversion utility for PCFILE
PCFILE .COM	A database program, see article p. 28
PCFILE .DOC	Documentation for all PC files
PCSORT .COM	Sorting utility for PCFILE data base
PHONE .CMD	Looks up customer phone number in seconds
REPEAT .CMD	Enters repetitious data in Orders data-base without retyping data
UNERA .COM	Un-erase a deleted file under CP/M 2.2
XDIR .COM	Directory program that can create a file

SOFTWARE REVIEW

PACKAGE:	**Accounting for Micros**
PROGRAM TESTED:	General Ledger for Morrow MD Series
AUTHORS:	James River Group, Inc.
MANUFACTURER:	James River Group, Inc. 125 N. First St. Minneapolis, MN 55401 (612) 339-2521
DISK SPACE:	100K
PRICE:	$125

Ken and Lynda Grymala have run their own small consulting business since 1978. Both have extensive small business backgrounds, and in recent years have helped establish several start-up engineering corporations. Ken provides engineering design, technical writing, technical training, and custom business and engineering software. Lynda, an accredited accountant and Certified Public Accountant candidate, provides general business management, accounting, and industrial security consulting.

To prepare this article, Ken, who has very little accounting background, attempted to set up their corporation's general ledger on an MD11 for use with an MP-200 letter quality printer. Lynda, with a very modest computer background, successfully set up the general ledger on an MD2 and an MD11 with an Okidata 92 printer.

THE ACCOUNTANT'S REVIEW
by Lynda R. Grymala

The accounting package offered by the James River Group for the Morrow MD series includes programs for General Ledger, Accounts Receivable, Accounts Payable, Inventory, and Payroll. These programs are designed for small businesses, typically not more than 20 to 25 employees and with less than about $2 million per year in revenues. This software would be a logical next step after your "one-write" manual system.

We reviewed the General Ledger part of the package and found that it meets our needs adequately and provides clear and concise reports. The journals are set up very much like a manual system, and are easy to follow. However, while the programs are easy enough and the documentation is complete enough for the "beginning computer user" (as the manufacturer claims), they are definitely not for the novice. Don't expect to uncrate your computer and unpackage your software and start keeping your company's books. To get started, you must have more than a passing knowledge of how your computer works as well as a good basic knowledge of bookkeeping. After that, the James River customer support service willingly helps you over the rough spots in getting the system up and running.

The heart of any bookkeeping system is the chart of accounts. I found that this General Ledger package makes the chart of accounts quick to set up and easy to edit. (Ken, the technical brains in this operation, would disagree. He never got started, but he can't balance his checkbook either.) If you have been classifying your cash in and cash out transactions in your manual system, then you have a good idea of how to structure your chart of accounts.
(continued on next page)

THE ENGINEER'S COMMENTS
by Kenneth J. Grymala

All of the James River accounting packages are written in MicroSoft Basic which has been compiled for use with specific microprocessors. I found the programs to run fast and error free.

The General Ledger program which we reviewed requires approximately 100K on a program disk. A second disk is recommended for data files, although one year's worth of our data required only 40K of disk space. The General Ledger package will work well on any Micro Decision, except maybe the MD1.

Installation is simple and straight forward. But with absolutely no accounting background, even with all the information in front of me, I decided I couldn't set up a chart of accounts. I recommend getting a good bookkeeper or accountant to set up that end of things. Still, I wanted to see how well the program performed, so I used a copy of Lynda's data disk.

One of the first things I noted was that making backups was risky business. The program does not include a backup routine, and the manual suggests using PIP. When I first started working with computers, I found out the hard way (several times) that it was surprisingly easy to get distracted and to "backup" your backup disk onto your main data disk, thereby destroying your precious new data! If you are a novice computer user, I would urge you to read my suggestions on backups in "Backing Up Your Data Disk" on page 52 of this issue.

After I made sure we could do backups, I decided to see how well the printer installation program worked.
(continued on next page)

Accountant, continued

After you have the chart of accounts set up, you are ready to enter your first month's data. Data must be entered by the month, in order. You cannot go on to the next month until you close out the current month. While the onscreen menus do not tell you how to do this, the updated version of the documentation does, and it even has a good checklist of steps to follow before selecting the end-month option. Once you select the end-month option, the machine does the rest. NOTE: When you close out a month, the totals are transferred to the next month, and you cannot recapture the detail. So when the screen prompts you to print a balance sheet and income statement as well as a journal entry summary before you end the month, believe them and do it.

The end-month function also closes the year out for you when it closes month 12. Before you can do this, however, you must have already closed out your income and expense accounts, and your net profit account has to be closed to retained earnings. The onscreen menus ask if you have done this, but they offer no help in telling you "how to," so don't attempt to do this without the help of your accountant unless you are confident in your own bookkeeping ability.

Although the manual warns that adding accounts out of sequence will result in a delay while the program sorts, I did not find this to be the case. I added accounts several times during the course of my testing, and the sort was still very quick. Of course, this may be because I had only 90 accounts. (James River states that the average small business will have between 100 and 150 accounts).

There is an aspect of the program I found irritating, especially when entering data monthly and when closing my accounts for the year. The screen size is quite limited—no more than 15 lines before the data is transferred from memory to disk storage. Going to the printer after every fifteen transactions is very time consuming, and it is tempting to select the "printer off" option when entering monthly data. But don't do it! Unless you have a printed back-up of all your work, finding errors will be next to impossible. Jim Hillegass of James River Group assures me that once you become familiar with the package, you can safely select the "printer off" option when you are entering data, as long as you remember to print a detailed summary report after each batch. Hillegass points out that entries are recorded in the General Ledger journal and can be printed out, in order of original entry or sorted by account, at any time during the month.

In packages I have previously used, I was accustomed to having a complete year-to-date printout of all my journal entries. The James River package does not provide that luxury. (Hillegass says the package doesn't keep the entire year because most floppy systems don't have sufficient space.)

The manual mentions this screen size limitation and suggests the use of a SUSPENSE ACCOUNT to take

(continued on next page)

Engineer, continued

The GLSTART, or install program, allows you to configure your system for a number of popular dot matrix printers, "any" daisy wheel printer, or you may customize your printer installation if it is not on the menu.

The Okidata 92A doesn't show up on the menu, but the Okidata 82A does, so I installed our 92A as an 82A. The program selects 10 pitch for most reports, and compressed print for wide reports. No problems were noted in using our Okidata 92A as an 82A.

However, when I tried to use our Silver-Reed EXP-550 (aka Morrow MP-200, aka Transtar 130) to get some printouts, two problems arose.

The first problem is that the Silver-Reed printers do not have a "paper out" sensor. And the James River program does not allow for a pause between pages. To use the James River programs with your Silver-Reed printer you will need a tractor feed and continuous feed paper.

The second problem is that you must use 11" X 14" standard ledger paper with an MP-200 unless you are using a 15 pitch print wheel. This is because standard 10 pitch or 12 pitch will exceed the width of your paper on wide reports. Page length is always set for 11" long paper. If you are using an MP-100, the tractor feed and a 15 pitch wheel would both be required.

If your computer is used for more than just bookkeeping, and by more than your trusted bookkeeper, an area of concern might be the lack of password protection of files. If you have a hard disk Micro Decision running CP/M Plus, you can use the "SET" command to establish password file protection. This is not available for the MD2 or 3, so you'll just have to lock up your floppies.

Customer Service

James River promises full after-sale telephone support, for free for the first 30 days after purchase. If you need additional assistance after that, you can purchase support. At the time of this writing, the charge for support is $25.00 per hour, with $10.00 minimum per call.

Our calls to them were always handled very courteously. And, in fact, before we got our package, we called and asked them if we could stop in while passing through Minneapolis on vacation. There was a slight hesitation. They said they didn't get much walk-in trade, but we were welcomed anyway. We came away with a very comfortable feeling that they would try to help their customers. Out of kindness to them, however, I would not suggest walk-in trade. They are very busy and set up for direct mail and telephone service. Visits definitely disrupt their work and customer service.

(continued on next page)

Accountant, continued

care of the problem. Unfortunately, it does not explain how to use this account, and neither computer expertise nor accounting knowledge was the least bit helpful in getting this to work. I see the Suspense Account as a "patch" to remedy a shortcoming in the program; it should be more carefully explained if it is really expected to be used.

Another point I found disconcerting was that the General Ledger package uses the Q=QUIT command for a variety of tasks, such as, "accept the change," "escape," "done entering data," or "exit to system." At first this was confusing and a little frightening. For example, I was certain that I would lose my entire chart of accounts, after careful editing, the first time I had to use the "QUIT" command to indicate "accept."

Something I found missing in the program is the option for a running balance of CASH when using the Cash Receipts and Cash Disbursements journals. I would find that helpful in eliminating simple errors, such as omissions or typing errors, when posting.

One feature that I did not use with my test data is the REFERENCE# feature. According to the demo booklet, use of the REFERENCE# will allow you to track income or expenses by job or by separate location. If this works, it can be a really nice feature for a small contracting business or retail operation. I'll have to experiment. [End of Accountant's Review.]

Engineer, continued

Documentation

By the time this article reaches print, James River should be shipping the updated version of their documentation.

Their original documentation promised more than it delivered. In an effort to be readable and understandable, too much was left to the user's imagination. Happily, the new documentation is much more complete. The Introduction, Disk Set-Up, General Ledger, and Accounts Receivable sections have been completely rewritten. We ran the program initially using the original manuals. In almost every instance where we ran into a problem with the old documentation, the new documentation addresses the problem area clearly and in detail.

Their manuals are attractively packaged in a three-ring binder and box. The writing layout is easy on the eyes, and is very easy to read and comprehend. A complete table of contents and index are included.

Each module is divided into sections, starting with an introduction. You are led through the installation, and then into the setup of an accounting system. The explanations are well suited for someone with a minimum of computer knowledge. Additionally, appendices are included that provide even more detailed information about computers and accounting.
(continued on next page)

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Math Fury - $24.95

This program was written by Michael Roberts, a 10 year old computer whiz, to assist his sister in her mathematics drills. You are given addition, subtraction, multiplication and division problems within a 60 second period. The more problems you get right, the higher your score. This one is a must for any school aged kids.

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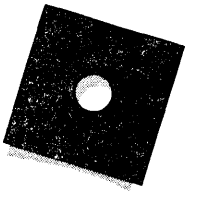

ALIST PLUS is also available in MS-DOS format.

Engineer, continued
Additional Benefits

If you are unsure which accounting program of the package you might need, or if you are unsure whether the James River packages are for you, they offer a demonstration program for $18.00. We didn't get the diskette, but we received the booklet that goes with it. In it, you get to see the style of their manuals, and it tells you a lot about their packages. It is also an excellent source for general information on the purpose and use of the various accounting programs they offer—General Ledger, Accounts Payable, Accounts Receivable, Inventory, and Payroll.

If you do decide to order the James River software, it comes with a 30-day trial period. Unlike any other software package we are aware of, you may return the entire package within 30 days of the date of shipment for a full refund, less shipping costs. All James River asks is that you tell them why you didn't like the product.

Overall, we found the James River General Ledger package to run solidly and with a minimum of setup or learning problems.

[A review of the remaining programs in the James River Accounting Package (Accounts Receivable, Accounts Payable, Inventory, and Payroll) will appear in a future issue of MOR. —Ed.]

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Backing Up your Data Disk

For people with an MD2 or MD3, I would suggest a foolproof trick I've been using for data backups. First, don't put CP/M on your main data disk; that is, don't SYSGEN it. Put CP/M, AUTO.COM, PIP.COM, SUBMIT.COM and the simple SUBMIT program (see MOR Vol. 2, #2, April 1985, p. 27) shown below on your backup diskette.

Name the SUBMIT program BACKUP.SUB:

```
;BACKUP.SUB
;
;THIS PROGRAM WILL COPY THE CONTENTS
;          OF DRIVE B
;    TO THE DISKETTE IN DRIVE A
PIP A:=B:*.*[V]
;
;
;DISK B HAS BEEN SUCCESSFULLY
;   TRANSFERRED TO DISK A
;
;YOU MAY RESUME BY PLACING YOUR
;   PROGRAM DISK IN DRIVE A
;  AND PRESSING THE RESET KEY
```

To get it to autostart, place the backup diskette in drive A and type:

```
AUTO SUBMIT BACKUP <cr>
```

Now, to do a backup, place this backup diskette in drive A and your main data disk in drive B. Press the return key, and it will transfer, and verify, that the files got from drive B to drive A. I would suggest that you practice with something other than your good data disk in drive B, just in case you get something wrong.

If you have an MD5, 11, 16, or 34, you will probably want to put your main data files on the hard disk. In this case, the Pilot menu backup programs are not very useful. I also feel that moving things from one user area on a hard disk to another user area on a diskette is really risky when using PIP. Although you could use a SUBMIT file, it would be much better if you were just to use Dave Rand's fantastic public domain program NSWEEP (NSWP207 or the latest version) to do backups. (See article on NSWEEP in MOR, Vol. 2, #4, August 1985, p. 54) It's free, bug free, almost goof proof, and simple to use—an invaluable program for anyone with a hard disk system. Virtually all CP/M user group libraries and CP/M bulletin boards have copies of it. [NSWEEP is also on the Floppy of the Bi-Month for August 1985 —Ed.]

BOOK REVIEW

TITLE: **Computer-Assisted Investment Handbook**
206 pp. plus bibliography and index
(1983)

AUTHOR: Albert I. A. Bookbinder

PUBLISHER: Programmed Press
2301 Baylis Avenue
Elmont, NY 11003
(516) 775-0933

PRICE: $19.95
Optional diskette-based software
available in different formats

by H. Roosma and Donald Jenner

If your interests extend to include econometric analysis, this is a book well worth adding to your library. Dr. Bookbinder's investment handbook contains 50 ready-to-run programs integrated with text to form a useful learning device for investors, particularly for those with only limited experience of systematic financial analysis. About 30 of the programs in the book are investment oriented, and 20 are statistically oriented. Programmed Press also offers a diskette with all the programs contained in the book, written in standard MicroSoft BASIC.

Professor Bookbinder brings a rare combination of both practice and theory to the preparation of his Computer-Assisted Investment Handbook. He was a financial statistician for the SEC; subsequently he directed research operations for a number of major NYSE firms. He continues to manage portfolios or act as a consultant on their management for a number of foundations. He has been professor of econometrics in the Fordham University Graduate School of Business and in the City University of New York.

The Text

The first set of investment oriented programs deals with Treasury Bills. As computing yields on T-Bills can get quite complicated, the author has provided several programs covering different situations. One could almost imagine a diskette full of Treasury oriented programs.

Two programs cover note and bond yields. The "Farhi" bond yield program allows investors to prepare their own bond value tables. The other program includes taxes in the bond value analysis.

The next set of investment oriented programs deals with the concept of present value, rates of return and mortgage payments. In our estimation, the mortgage program could be enhanced by allowing it to compute a complete mortgage payment table. The rate-of-return program is also rather limited since it allows for only two cash flows. A general rate of return program could be very useful.

Among the more unique applications, sample programs—the Soybean Crush Spread and Soybean Crush Contract Value—offer models for creating programs dealing with commodities having active futures markets.

There is an interesting set of programs relating to bilateral and multilateral foreign exchange values. These programs provide a weighted average foreign exchange value of the U. S. dollar in the spot markets and the foreward markets. However, we assess that, for all but the most sophisticated users, a more complete explanation of the parameters used in the programs would be useful.

Dr. Bookbinder has included in his book a number of programs on arbitrage with options, puts and calls. The Merton version of the Black-Schol's option valuation model is included. The author also presents his own option valuation model which he feels is an improvement over the Black-Schol's model. Dr. Bookbinder's model uses an empirical distribution instead of the more commonly used log-normal curve. The users have an opportunity to evaluate the effectiveness of both models.

The book concludes by presenting several programs for forecasting earnings and changes in the Dow-Jones Industrials average. Changes in the stock index are related to changes in bond yields, earnings and dividends.

The 50 programs in the Computer-Assisted Investment Handbook are well-integrated with the explanatory text. The text presents theory, which is further explained through studying the related programs' algorithms. The source code is accompanied with a sample run-time output; this is a useful check for those who key in these programs themselves.

The programs, originally written for an IBM-PC, will run equally well on CP/M machines running MicroSoft BASIC. As supplied, the programs are screen-oriented, but it would be well within the power of even the most inexperienced user to get hard-copy output.

H. ROOSMA is a professor of finance and Chairman of the Department of Financial Management at the Pace University Graduate School of Business.

DONALD JENNER is a university teacher of philosophy in the Greater New York area, an avid computerist who occasionally consults on the use of microcomputers in small business and not-for-profit organizations, and does applications programming for MIS.

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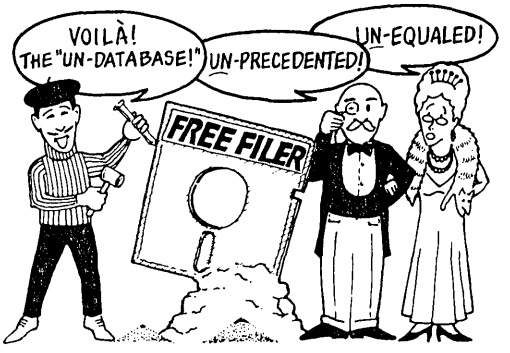

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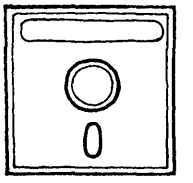
Professor Bookbinder has avoided a number of "sins" often committed by authors of software-oriented books, most especially that of writing code which the casual reader is unable to follow easily.



The Software

At the time this review is being written, the programs on the optional diskette are supplied more or less as included in the text of the handbook. They are a series of discrete routines designed to allow the user to key in data at the time the program is invoked. However, a new version of the diskette-based software is being developed which will offer a more conventional and "friendly" interface and perhaps some kind of database to hold a set of basic information available to all of the programs. On the one hand, this will prove handy for the more advanced user, familiar with the Handbook in particular and financial analysis generally. On the other hand, the new integrated program, because of its compilation and loading process, will almost certainly be limited to MS-DOS machines. If you intend to purchase the diskette-based software, you should check with Programmed Press as to which form is available for your machine.

The Computer-Assisted Investment Handbook might find a place as a secondary textbook for more advanced undergraduates and graduate students. The software is both accessible in practical situations and effective as a tutoring device. In the hands of the professional financial executive or technician, it may be used "as is" or easily modified to meet other, more recondite needs. ■

WHERE'S THE Q & A BOOK?

At one time, about 18 months ago, Dave Block, of Morrow, Inc., used to receive over 200 question-letters a day. In response to this overwhelming demand, he wrote a 61-page booklet of typical questions and their answers.

While somewhat outdated, requests still come in for it. However, copies are no longer available. BAMDUA (the Bay Area Micro Decision Users Group) used to mail them out for a dollar until their supply ran out. If one of you out there would like to volunteer to reprint the booklet and handle mail requests for copies, we will send you a suitable master copy.

Write to MOR with your proposal to take this project on. Please write "Q & A BOOK" in the lower left corner of your envelope. Thanks.

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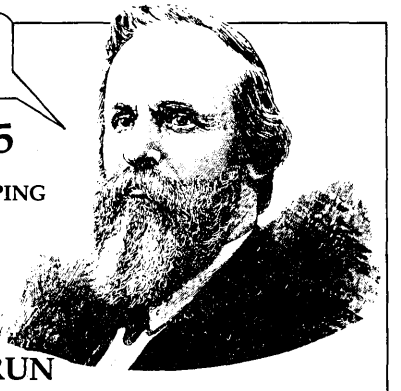

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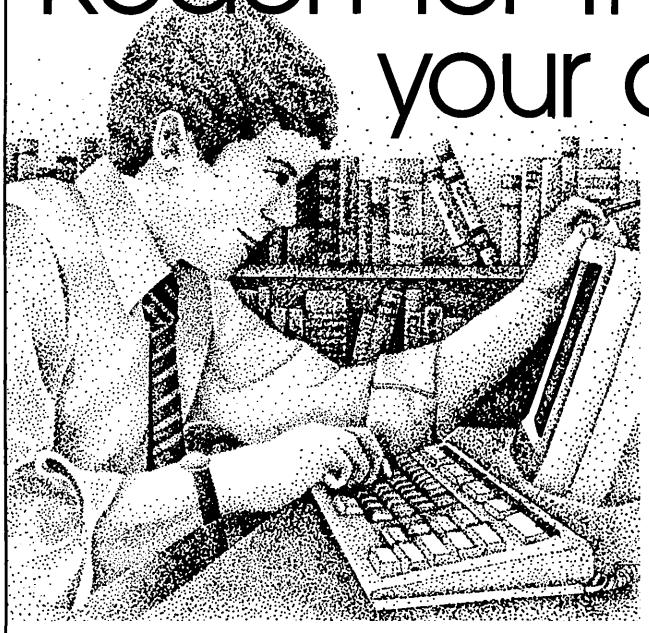

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